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ORIGINAL ARTICLES.

THE OPERATIVE TREATMENT OF PTERYGIUM.

Read before Mississippi Valley Medical Association, September 18, 1896, at St. Paul, Minn.

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It is a pleasure to me to have the opportunity of directing the attention of the Mississippi Valley Medical Association to an operative procedure for pterygium which I have employed for nearly fifteen years with eminent satisfaction and of which I gave a preliminary description in the *Medicinsk Revue*, September, 1885, published in Bergen, Norway. My original operation has in the course of time undergone some modifications, and as I can not, for the time being, conceive of any further improvement, I thought it might be of interest to present it to the medical public at large, and I have chosen this opportunity for the following reasons:

Pterygium is of frequent occurrence in the Mississippi Valley.

The members of the Association are undoubtedly, from personal experience, familiar with this characteristic affliction and many of you without doubt have treated it surgically in the capacity of oculists, surgeons, or general practitioners.

In a goodly number of cases you have obtained good results not only immediate, but also permanent.

The majority of you have, I suppose, employed excision, which is commonly recommended, but which *per se* is unjustifiable, and not infrequently followed by relapse.

Other operative procedures have not yet proven their ability to effect a cure in all cases.

Finally, pterygium is so easy of access, the operation for it so devoid of danger both to life and eye, and its clinical nature so evident, that we must make the reasonable demand that it should be satisfactorily performed with permanent good results by every one in possession of surgical and antiseptic qualifications and in every case.

The etiology and pathogenesis of pterygium are unfortunately not yet satisfactorily settled; it is still a somewhat mysterious calamity. In the days of humoral pathology, pterygium was the local evidence of a constitutional malady which should be treated before and after operation with iodids and sarsaparilla. Nowadays we believe just as much in this as that pterygium is due to strain of the interni, and that it should be treated with glasses. It is a trifle annoying that pterygium preëminently occurs in people who do not strain their interni, and that it occasionally occurs over the interni, which hardly can be over-exerted. A wound of the limbus can not by itself produce pterygium, or we would see pterygia daily in scrofulous ophthalmias; experimentally, pterygium can not be produced by such wounds; we can safely eliminate this theory which, I grant you, sounds very plausible. Episcleritis has also been advanced as a cause. I acknowledge that episcleritis is or has been present in every case of pterygium, but an episcleritis, which is a disease of quite frequent occurrence, does never (as is notorious) *per se* give rise to true pterygium, so that under all circumstances there must be something peculiar to that episcleritis, which by some is accepted as the cause, and as there is also much which speaks in favor of such an interpretation, it is thus not improbable that the microörganisms, found by some observers in several cases of pterygium, play their part in its causation.

The circumstance that pterygium by preference occurs in people who are especially exposed to wind and dust; furthermore, that a good many positively date the beginning of their trouble to such an exposure; and finally, that I have actually a few times found in my operations on pterygium a minute foreign body in the episcleral tissue near the head, has created the firm conviction that the cause must be an infected episcleritis, in all probability due to a foreign body and that the peculiar mode of growth of the pterygium over the cornea results from the endeavor of the diseased tissue to rid itself of the offending particle. Such a traumatic infected episcleritis, limited to that part of the eyeball exposed, when the lids are open, is a common affection among the farmers of the west; but only when this episcleritis invades the cornea, dragging the superadjacent conjunctiva with it, do we call the disease a pterygium; there are, however, more such episcleritides than pterygia. As long as this episcleritis is active, the process is progressive in all directions, most conspicuously toward the center of the cornea, where the supposed foreign body presumably makes its escape.

As is well known, pterygium is divided into two general classes: crassum or sarcomatosum, and tenue or membranosum; this simply means that in the first group the disease is active or progressive, and in the second passive or stationary.

It may perhaps seem superfluous that I have dwelt so long upon the episcleritis, which I believe to be the cause of pterygium, since even a successful treatment of this condition can not effect anything toward the cure of pterygium itself, which is the affection we are consulted for, while we rarely are asked to treat the underlying condition, which gives the patient little annoyance, if any at all. Nevertheless, we must take cognizance of this casual factor, because, first, there may be question in some cases of a prophylactic operation, and second, in our operation on the pterygium proper we should also eradicate the episcleritis.

Pterygium is only a clinical term. Scrutinized from a pathologic standpoint it offers unmistakable evidence that it is a dislocation of a certain part of

the conjunctiva toward and upon the cornea, because: First, the pterygium is histologically identical with the conjunctiva; second, it is continuous with it; third, we can observe how the semilunar fold in nasal pterygia is drawn forward and later obliterated; and fourth, we also notice how the caruncle is dragged forward from its original position to assume the shape of a horizontal oval.

The dislocated part of the conjunctiva is usually the seat of a moderate conjunctivitis in the progressive form; in the stationary form the conjunctiva is normal except at the point of attachment to the cornea where there is a limited hyperplasia.

To sum up: Pterygium is a dislocation of a certain part of the conjunctiva over the cornea, dependent upon a localized episcleritis, in all probability due to an infected foreign body, which has penetrated the subconjunctival tissue and which is expelled at the apex of the pterygium, whereupon the latter becomes stationary.

While the preceding considerations ought to furnish valuable indications for the treatment of this affection surgically, a short synoptic review of leading symptoms is necessary to determine *when* such procedures are desirable.

The principal symptoms of pterygium are deformity, limited mobility with double vision, epiphora, irregular astigmatism, and amblyopia.

Deformity, whether great or little, is a plausible indication for operation for cosmetic reasons. Limited mobility justifies operation as soon as it produces double vision. Annoying epiphora, a natural result of the displacement of the parts concerned in the physiologic absorption of the tears, is likewise indicative of operation. Double vision and epiphora belong, however, to advanced stages of the disease, where more important indications present themselves for consideration. Amblyopia, due to irregular astigmatism, may occur in pterygia which have not encroached on the pupillary area; it is caused by traction on the cornea and is relieved by operative interference. Amblyopia caused by invasion of the pupillary field is by all means the most important symptom of advanced pterygium; surgery at this late stage of the disease will certainly accomplish much good, but it is not to be compared with the results afforded by operation undertaken before this invasion has occurred, and it is a very difficult matter to distinguish between a stationary and a progressive pterygium.

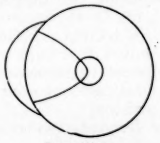
There are therefore in my opinion weighty reasons, cosmetic as well as prophylactic, to advise early operations, which in addition are easier to perform and give more ideal results than those undertaken in later stages.

I am thus totally at variance with the majority of authors who advise operation only when the pupillary field is invaded.

Unfortunately pterygium occurs preëminently in a class of people and usually at an age, when they do not particularly care about a little disfigurement, limited mobility, epiphora, and irregular astigmatism, in many cases also little about the amblyopia; at any rate in my experience, it is a noticeable fact that the minority of cases submit to operation, which is to be regretted, as I maintain that pterygium is absolutely under our surgical control.

The treatment of pterygium can, according to the preceding, only be an operative one. A dislocation of the conjunctiva must be treated upon the same surgical principles, which obtain in any dislocation, by *reposition* and *fixation*. I protest against operative procedures which aim at excision of the pterygium, as such mutilation is as unjustifiable here as in dislocations in any other parts of the body, and its only excuse is that it ordinarily is followed by good results.

Before I pass to the description of my operation of reposition and fixation for the cure of pterygium, a few remarks on the antiseptic technique will be in order, so that septic complications of annoying, even if not dangerous character, may be avoided, and a rapid and uneventful recovery ensue. For the operator, it is sufficient that he disinfects his hands. I confine myself in this respect to scrubbing thoroughly in a warm 1 per cent. lysol solution; then I wash the patient's face with the same sort of solution. The instruments, gauzes and bandages and the bottle containing the cocain solution, have been sterilized in Boeckmann's small sterilizer for combined sterilization. The field of operation is flushed with the cocain solution (my favorite formula being cocain mur. 3 per cent. dissolved in a saturated solution of boracic acid and sulphate of quinin); to quiet the other eye, a few drops are instilled into it. The speculum is introduced and I proceed to the



Reposition.

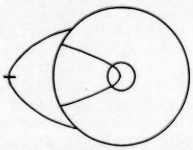
Reposition: The head of the pterygium is grasped with a good forceps and it is carefully dissected from its corneal attachment either by scissors, knife or evulsion. It must be dissected to its full extent and even a little beyond; after this the dislocated conjunctiva is unfolded by putting it on the stretch, which is simply effected by placing the blades of the scissors underneath it and lifting it up away from the globe. After this the conjunctiva will retract somewhat from the corneal periphery and assume its anatomical position as nearly as possible.

Fixation: In order to effect this properly we must recognize as a fact, that a *sine qua non* for the establishment of pterygium is the existence of the subconjunctival connective tissue. This is indeed the medium which makes it possible for the conjunctiva to slide over the cornea; if it did not exist, if in other words the conjunctiva around the cornea was intimately connected with the sclera, a pterygium would be an impossibility. If we remove the subconjunctival tissue to an extent that the edge of the replaced conjunctiva is freed therefrom and brought into direct contact with the sclera itself, a solid adhesion between the two will result and a successful fixation established.

With one forceps therefore, the conjunctiva is lifted up near its junction with the corneal margin (above or below) and with another forceps the subconjunctival tissue is dragged forward, and, steadily pushing the conjunctiva back, a good sized band of connective tissue is removed with the scissors along the whole extent of the conjunctival edge. If there is active episcleritis we do well to remove all inflamed tissue as good practice for the cure of the episcleritis itself and as an additional safeguard against a possibility of relapse.

After the excision of the subconjunctiva, the conjunctival edge will retract further backward, whereupon the whole wound, scleral and corneal, is thoroughly scarified and scraped for inflammatory remnants with a cataract knife. The hyperplastic conjunctival edge is trimmed off. To secure the conjunctiva in position, until adhesion is firm, and to prevent it from sliding over the cornea again by the movements of the eye, I fasten the edge to the internus (externus) muscle at its insertion with a single fine catgut suture and the act of fixation is complete.

We have now a triangular wound outside of the cornea, the free edge of the cut conjunctiva in direct contact with the denuded sclera, and a fresh corneal wound extending to Bowman's membrane. Cicatrization will follow rapidly from all sides and by virtue of this cicatrix a recurrence of the dislocation will be prevented for all time.



Fixation.

The after-treatment is extremely simple. The eye is occluded with folded sterilized gauze; the bandage is changed daily and a 2 per cent. solution of nitrate of silver applied to the conjunctiva for a week; the bandage is then removed and the patient discharged.

Only one eye is operated on at a time as bandaging of both means discomfort.

I take the liberty to recommend this operation to the profession as being in my mind and according to my experience a rational, a justifiable and, when properly performed, an always reliable method.

Lowry Arcade.

AMBULATORY TREATMENT OF FRACTURES OF THE FEMUR; NEW MATERIAL FOR SPLINTS AND ORTHOPEDIC APPARATUS.

BY ALEX. C. WIENER, M.D.

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Although I am perfectly well aware of the obstacles which still beset the ambulatory treatment of fractures of the lower extremities, I nevertheless claim that it is not necessary to confine the patient to bed for more than a week, even with fracture above the middle of the femur. On admission, the whole extremity should be carefully disinfected with soap, water and alcohol, and the hair removed. Then strips of cotton lining are pasted on the skin with Heusner's fluid adhesive plaster, and included in the dressing in such a manner as to leave the ankles free and to allow a small square board to be fastened at least three inches below the sole. To this board weights for extension are fastened. In the morning when the ambulatory apparatus is put on again, the weights are taken off and the strips are reversed and fastened with pins. In this way is secured a permanent extension with weights varying from ten to fourteen pounds according to the strength of the muscles. If, while the leg is being dressed, it is carefully stretched, the patient experiences very little pain or inconvenience.

A glue dressing should be carefully applied and, beginning from the toes, should include the whole extremity up to the inguinal region. Rollers of soft muslin or, better, of light flannel, should be used, and also the best white glue. The glue should be boiled and then cooled sufficiently not to scald the patient. The rollers, which are about two inches wide, should be moistened on the end with glue and pasted on the skin in such a way as to prevent creases. Should it become necessary to fold the bandage, it must be cut and repasted. It is of the utmost importance that the toes, the foot, the leg and a space of at least 3 inches above the fracture, be provided with this tightly fitting compression bandage, as it would be impossible to endure a perpendicular position of the injured limb without it. Care should be taken that those parts at the joint of the foot which are especially subjected to pressure—the heel, Achilles tendon and the instep—are protected from pressure by a thin layer of absorbent cotton, and that the bandages are not pasted in this place, as motion will cause the glue to crumble and the skin will be irritated. I wish to particularly emphasize that in applying the bandage too much care can not be exercised in placing the foot in a perpendicular position to the leg, in order, by shortening the Achilles tendon, to prevent an equinus position, as this would be difficult to correct later on. On taking off the first bandage it may frequently be observed that the foot is already in a pes equinus position, which will later prevent the patient from using the extremity, even if the fracture is well healed, and a tedious and painful course of treatment will be necessary to overcome what might have been avoided in the first place by the observance of a few simple rules.

A firm "contentif" (compression) bandage in which the patient can walk may be obtained by including strips of thin fiber or pasteboard at the seat of the fracture. This will make a dressing not thicker than the blade of a knife, very light and yet firmer than the plaster dressing. If after a few days the bandage becomes too loose, a strip must be cut out and the defect remedied by pasting on new strips. Glue as an adhesive material produces compression like collodion, but, at the same time, does not interfere with the sudoriferous glands of the skin and forms a safe protection against the invasion of pus microbes and saprophytes. As soon as the glue touches the skin the patient will experience a sensation of coolness and relaxation. With this bandage, which within twenty-four hours becomes thoroughly dry, forming a solid capsule, the patient is enabled to walk about on crutches, since the leg can be suspended in a perpendicular position without pain.

The three following cases of fracture of the femur in the service of Drs. E. H. Lee, Halsted and Tope, were treated at the Cook County Hospital:

Case 1.—I saw the patient about nine days after the accident, when he was placed in an extension apparatus with twelve-pound weights. He was furnished with a tightly fitting glue dressing and the same was strengthened on the femur with thin pieces of pasteboard. After the extension apparatus was put on he walked from the table with the aid of two canes. He never experienced any inconvenience or edema. On one occasion I found him playing ball on the hospital grounds. At the end of six weeks the apparatus was taken off. The leg was shortened less than one-fourth inch. The muscles of the femur, particularly the quadriceps, which is most liable to atrophy, had the same strength as on the other side. At no time did edema or other disturbance of the circulation occur.

Case 2.—Patient was run over by a heavy cart shortly before his admission to the hospital, the wheels passing over the right femur. He entered the hospital May 6, 1896, and was put in an extension splint for six weeks. The first day he was up walking on crutches he fell again and refractured the femur at a point just below the callus. The first fracture was located in the upper third of the femur, ten inches above the upper edge of the patella. The second fracture was eight inches above the patella. Eight days after the second accident the patient was furnished with a glue dressing, and two days later with an ambulatory apparatus. (I prefer to have the glue dressing thoroughly dried first; this takes about twenty four hours.) One inch of shortening had resulted from the first fracture, the knee joint being almost immovable; the quadriceps muscle had atrophied to such an extent as to cause a difference of one and one-half inches in the circumference of the thigh. Four weeks later the extension apparatus and glue dressing were removed. Callus at site of first fracture was quite large, while that at the seat of second fracture was scarcely perceptible. The quadriceps muscle was much more developed, the difference in circumference having been reduced to three fourths inch. The knee joint could be bent to half a right angle. The astragalo-tibial joint was freely movable. No disturbance in circulation was noticeable at any time. A decubitus about the size of a half dollar located on the posterior surface of the thigh, which had resulted from the dressing of the first fracture, was healed up. There were no signs of pressure from the apparatus, which was worn over four weeks. There was a slight elasticity in the bone at seat of fracture. The patient was provided with a flannel bandage and sent home.

In this case we have right at hand a comparison of the old method of treatment and the new method. Under the former method the patient was compelled to lie in bed for six weeks and then, being unable to stand, had to use crutches. The muscles of the whole leg were atrophied, the knee stiff and the astragalotibial joint almost immovable. There was an extensive and luxurious callus and one inch of shortening. During the ambulatory treatment of the second fracture we not only took care of the fracture itself, but succeeded also in mitigating the bad effects of the first fracture.

1. The muscles of the leg, especially the quadriceps muscle, had gained considerably in strength, the difference being only one-half inch in the circumference. 2. The knee joint was mobilized to 45 degrees and the ankle joint absolutely free in mobility. 3. The original shortening of one inch was reduced one-fourth inch. It is remarkable that the formation of callus is very small under the ambulatory treatment compared with the callus formation under the stationary method of treatment. During the course of the stationary treatment the patient had lost in flesh and looked pale. When he left the hospital he was in the best of health and spirits, having enjoyed an outdoor life during the hot season. The measurements in this case were also taken by Dr. Jackson, interne of the hospital, so as to avoid any mistakes.

Case 3.—Strong laborer; oblique fracture of the left femur seven inches above the upper edge of the patella; considerable extravasation of blood; difference in circumference three inches; overriding of the fractured ends; shortening two inches. Admitted October 23; provided with a glue dressing October 26, combined with extension. As a shoe with a high sole for the healthy side could not be procured at once, it was necessary to postpone putting on the apparatus until the evening of November 2. He then walked through the ward with the aid of two canes, and the next day being election day, he was driven in a buggy three miles to his district to cast his vote. He returned to the hospital next morning in good condition, having been driven over rough roads and walked through a considerable crowd. Having gained confidence in the treatment he asked for his discharge from the hospital, which was granted. He is now going about at home still provided with the apparatus.

The construction of the apparatus has already been described in detail in the *Railroad Surgeon* of February, 1896, and the Chicago *Medical Recorder*, February, 1896. The fractured shaft rests immobilized in the apparatus, the weight of the body being transferred to the tuber ischii, which is astride the uppermost steel bar. The apparatus is about two inches longer than the extremity, so as to allow the extension of the extremity. The same apparatus may be used in any joint disease in which the indications are rest of the joints, extension, and at the same time outdoor exercise.

The only objections to the general use of the apparatus are, 1, the expense; 2, the adapting of the steel bars. In experimenting to overcome these disadvantages I have succeeded in finding a material which, in my opinion, is ideal for use in general practice as well as in surgery. It is fiber. It is used in three thicknesses. The thinnest one takes the place of pasteboard in glue dressings and molds itself closely to the outlines of the extremity. I have experimented with the two next sizes for quite a while, and find that when soaked in hot water for different lengths of time it readily adapts itself to the outlines of the extremity. When soaked in hot water for about ten minutes it can easily be adapted to the outlines of the arms or legs. In order to mold it right to the skin around the joint so as to secure a capsule for the same, it is necessary to soak it for twenty-four hours. When dried, fiber takes the place of wooden, hard rubber or papier maché splints. In a half-soaked condition it replaces pasteboard, felt and pliable wood. When thoroughly softened it replaces leather for making capsules and immobilizing splints for diseased joints. When dried again it retains the form of the part of the body to which it was applied, and the different parts can be connected with steel bars by means of copper nails. The way to proceed is, to cut out a pattern of simple parchment paper and then cut out the same in the fiber sheet. Then this fiber pattern should be soaked in water, placed around the extremity and held there with tightly fitting rollers until dried. It is then taken off and connected with steel bars. I consider fiber the most universal material yet devised, and recommend it for extensive use by the general practitioner, as well as for railroad and army purposes, as it takes up but little room and is inexpensive. It can be kept clean. Stains may be removed with water and soap. When applied directly to the skin it does not irritate, as its surface is absolutely smooth. Greasy matter may be easily washed off with alcohol or ether. I now use it extensively in ambulatory apparatuses for joint diseases in clinical work, in correcting malpositions of joints, combined with rubber bands and permanent extension. The fiber capsules are adapted during the hour of the clinic and brought to the instrument maker.

The surgeon does not have to depend on a special instrument maker, as any skilled locksmith is able to connect the fiber casts with longitudinal steel bars according to given measurements. For this reason, the introduction of fiber in surgery is likely to result in a more general use of the extension splint.

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A LARGE FIBROUS NASAL POLYPUS.

BY F. A. LONG, M.D.

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Fibrous polypus of the nose is much more formidable than the soft or mucous variety, but is fortunately

rarely met with. The tumors may attain enormous size and give rise to frightful deformity. It may occur at any period of life, arising from the periosteum or the bone proper, usually from the posterior nasal or the cavities accessory thereto, but with a special predilection for the roof of the posterior nares. Its growth is far more rapid than that of the mucous variety; the filling of the nasal and post-nasal spaces does not stop its growth, and the continued and ever-increasing pressure forces the bones of the nose apart (as is apparent to any observer by the appearance of frog-face), causes absorption and caries of the bony walls and ulceration of soft tissues, giving rise to an acrid discharge and also to frequent hemorrhages. Repeated severe hemorrhages may sap the patient's vitality. The constant direct absorption and swallowing of purulent discharges may gradually end life by septicemia. Sarcomatous degeneration is liable to take place, ending in a horrible death.

The appearance of the fibrous variety is so different from the soft that a mistaken diagnosis is impossible. It lacks translucency, has the color of surrounding tissues, perhaps a little deeper red, is firm and resistant to the touch.

EXPLANATION OF CUT.

a, Anterior surface presenting at left nostril; t, portion showing convolutions of inferior and middle turbinates; s, sulcus dividing polypus into nasal and naso-pharyngeal lobes; n p, naso-pharyngeal lobe; p, pedicle; length along left side of mass from a to n p, 2¾ inches, height at t 1¼ inches. The cut is nearly natural size.

With these preliminary remarks I wish to record the following:

A young German-American farmer presented himself complaining of total nasal obstruction. He had the general appearance of good health, but "frog-face" was at once apparent. Complained of some headache, of lack of ambition and of eyes watering constantly, mostly on left side. He frequently felt nausea, worse when reclining. The trouble came on insidiously and he thinks it may have been a year in its development. On inspection a solid mass completely occluding the anterior nares, presented itself at the left nostril. The septum was deflected decidedly to the right side; the soft palate was bulging downward. Digital exploration of the naso-pharynx revealed the entire space anteriorly occupied by a solid mass, its attachment uncertain.

The mass was removed with a polypus forceps through the anterior nares, the deflection of the nasal bony walls caused by the pressure of the mass and the very slender pedicle (see cut) having made removal by this method and through this way comparatively easy. Macroscopically it is a soft, fleshy mass 2¾ inches long by 1¼ high in the middle portion (t) showing here beautifully the impression of the turbinated bodies on the tumor; width across the base, which corresponds to the floor of the nasal fossa, ⅝ inch. Just back of the attachment of the pedicle is a deep sulcus (s) caused by its impingement on the nasal septum posteriorly, and which divides the polypus into two lobes, the nasal and naso-pharyngeal. The naso-pharyngeal lobe (n p) is 1⅛ inch wide and ⅞ inch high turned toward the right side, and by its shape, size and position occluded the right nasal fossa behind. The pedicle is very slender, ⅞ inch long, very much constricted at the polypous end, showing conclusively that the polypus originated in one of the accessory sinuses, probably the sphenoidal. From the sulcus forward the growth is an almost perfect cast of the left nasal cavity.

This case is believed to be sufficiently unique to deserve a place in the literature of nasal polypi.

THE PHYSIOLOGIC ACTION OF THE THYROID GLAND.

BY HUBERT RICHARDSON, M.D.
BALTIMORE, MD.

The very different results obtained by the administration of the thyroid gland, or its extracts, and the reports of its success in so many forms of disease, require some further explanation, and I here give the results of a few observations made during the past six months on its possible physiologic action among the insane.

In the paper read by Dr. C. G. Hill on the subject of thyroid feeding, an analysis of the urine made by Dr. Whitney is given, which shows that though the excretion of chlorids, phosphates, sulphates and to a lesser extent urea are slightly increased, the total solids are decreased, pointing to the non-elimination or non-formation of the more toxic products of metabolism, with the possible exception of the ethereal sulphates. Dr. Haig showed by experimentation on himself that thyroid feeding produced a retention or possibly a reduced production of uric acid. Dr. Perry, in his paper on the blood in thyroid feeding, has pointed out that the blood coagulates more quickly, that very slight leucocytosis, or none at all, takes place, but that there is an increase in the number of lymphocytes. A general desquamation seems to take place in the mucous membranes, as well as in the skin, pointing to an increased activity of cell production. Horbaczewski has shown that uric acid is formed from the destruction of polynuclear cells and that those drugs which produce a leucocytosis also cause increased elimination of uric acid, with a few exceptions, as antipyrin, which he suggests produce the leucocytes by the arrest of destruction consequently diminishing the excretion of uric acid.

In my own analyses I have found that the first result of thyroid feeding was to reduce the elimination of uric acid, though after a week or ten days it became normal, or slightly excessive, as the patient improved, presumably by increasing the production of the lymphocytes and also those of the mucous membranes and decreasing at first the destruction of the polynuclear cells. I have observed that when the

thyroid is given to patients whose urine showed excess of toxins, viz., uric acid, ethereal sulphates and pigment, it either produced little or no effect, or caused fever and debility without improvement. The best results have been obtained with patients who had been for some time in the institution and whose elimination had been attended to. I would infer from the above that the physiologic action of thyroid is, 1, increased production of lymphocytes and increased cell production generally, especially in the mucous membranes; 2, an arrest of the destruction of the polynuclear cells.

The above hypothesis would help to account for its success in some reported cases of albuminaria.

THE PALLIATIVE TREATMENT OF CANCER OF THE CERVIX UTERI AND BLADDER IN WOMEN.

Read at the Thirteenth Annual Meeting of the New York State Medical Association, Oct. 14, 1896.

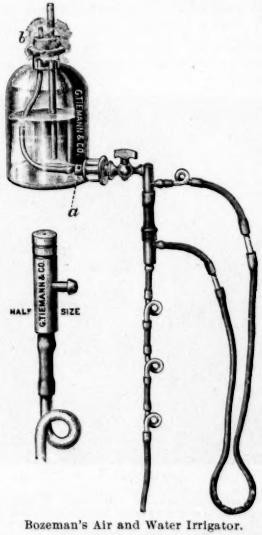
BY NATHAN G. BOZEMAN, M.D.

GYNECOLOGIST TO ST. FRANCIS HOSPITAL, J. C., ST. MARY'S HOSPITAL, HOBOKEN, AND BAYONNE CITY HOSPITAL, NEW YORK.

I shall confine my remarks to the treatment of carcinoma of the cervix uteri and the bladder in the stage of the disease when any operative measure may be of doubtful expedience, or in cases where operations have been undertaken and the disease still progresses, the condition of the patients being most distressing from hemorrhage, sepsis, incontinence of urine and all the evils resulting therefrom. My interest has been aroused in this class of patients, and no doubt you feel the same, because of their hopeless condition and the difficulty of caring for them in our public hospitals. Certainly, treatment will be directed to alleviating their suffering and rendering their surroundings as wholesome as possible.

Women afflicted with inoperable epithelioma of the cervix uteri, when they are not undergoing any treatment, complain most frequently of hemorrhage and a foul-smelling, bloody discharge from the vagina. The vaginal examination reveals a hard unyielding band of sclerous tissue in front of the cervix extending nearly around the vagina and constricting it; beyond this is the diseased cervix, which is either destroyed, leaving a deep cavity with necrotic walls, or there may be a cauliflower growth on the cervix. Usually digital examination causes excessive hemorrhage, which is controlled by placing the patient in the supported knee-elbow position, exposing the cervix by introducing a perineal elevator guided by the finger and gently brushing over the bleeding surface with a solution of persulphate of iron, or if necessary, touching it with the Paquelin cautery, then packing or columning the vagina with dry cotton. Great caution must always be observed not to injure the ulcerated surface with the end of the speculum. This accident I have found causes more bleeding than the digital examination. To guard against this I also use the knee-elbow position.

In some cases the first indication is to overcome the partial stricture of the vagina which I have referred to, in order to gain free access to the disease and to allow the uninterrupted escape of the discharges. This is accomplished by means of hard rubber intravaginal dilators of suitable sizes to admit of easy introduction. They are worn for several hours a day and are removed for douching. This gradual dilatation is continued until the contraction has yielded. The treatment sometimes is painful and has to be alternated with columning the vagina. The column of antiseptic gauze and dry cotton I employ in all cases after first dusting on aristol or some other antiseptic powder, for a twofold reason: pressure and absorption of the secretions. When it is properly introduced it may be worn forty-eight hours, then removed for thorough vaginal douching during the next twenty-four hours. It produces pressure on the diseased surface and against the constricting band in the vaginal wall. The secretions are retained in it for a considerable time and it prevents bleeding; consequently the surface of the ulcer is maintained in a fairly clean state. I treat my patients about three times a week and I find that they are kept quite free of pain and are not annoyed by the discharges. The disease has a natural tendency to extend, but in none of my cases has a perforation occurred into the rectum.



Bozeman's Air and Water Irrigator.

I have had several where the bladder became involved and here is when I believe most of the pain from the disease begins. The first manifestation of the extension to the bladder is a severe form of cystitis with excessive vesical tenesmus and frequent urination, but when the perforation of the vesico-vaginal septum takes place and the urine finds a free outlet, all these painful symptoms subside; a vesico-vaginal fistula is then established and the bladder has physiologic rest.

Some of us are familiar with the pitiable and loathesome condition of urinary fistula cases in former times, when the sloughing of the vaginal and bladder walls was due to prolonged pressure of the head in the parturient state, and we all know of the successes of my father in his untiring efforts to close these openings and restore such patients to health, so that now by following his teachings we are enabled to close all forms of vesico-vaginal fistulæ. Those caused by carcinomatous ulceration, however, should

never be closed. We must content ourselves with other means of treatment.

In three cases which I have had under observation I have used continuous irrigation of the vagina and bladder, alternating with Dr. Nathan Bozeman's vesical drainage support, which is worn in the vagina and collects the urine and conducts it into a soft rubber receptacle which is attached at the knee.

Now as to the continuous irrigation. When this process is kept up for any length of time we must of course economize the fluid which we use, so I have had constructed an irrigator[1] which does this by mixing air with the solution and the two, while coursing through a perforated tube in the vagina when the patient is in a recumbent or sitting posture, produces a current which carries off with it all secretions and particles of debris. The reservoir, a glass bottle, stands upon a table near the bed and is connected with the perforated tube in the vagina. The bottle has a constant outflow, that is, as the fluid escapes from it by the opening at the bottom, air passes down the long glass tube and takes its place. The pressure is thus maintained constant and it is represented by the weight of the column of fluid extending from the lower end of the perpendicular glass tube to the circular opening at the bottom of the vessel. The stopcock does not regulate the velocity of the efflux but shuts off or turns on the flow. A certain proportion of the fluid, as it escapes from the bottle, collects in a small reservoir, where it is also maintained at a constant level. In the bottom of it is a round opening, the area of which is such that with a column of liquid two inches high one-half an ounce escapes per minute. This is made to produce suction. The excess collects in an intermittent syphon and is discharged by it. The suction pump and the intermittent syphon being connected with the perforated tube in the vagina alternating columns of air and fluid pass quickly through it, carrying off with them the urine as it is secreted. Three hours is about the longest time that a bottle holding one gallon will irrigate and drain. I have now under observation a patient who has been using the irrigator with very great comfort to herself for nearly a year. In her case I am also making applications once a week of hydrogen peroxid. The upper portion of the vagina, the cervix and the bladder are destroyed, but still she can be drained and is comparatively easy. In summing up I would recommend:

1. Keep the seat of the disease in an aseptic condition.

2. Prevent or counteract any narrowing of the vagina in front of the disease.

3. When the bladder becomes involved use effective irrigation and drainage to carry off the urine as soon as it is secreted.

THE THERAPY OF CALCIUM SULPHID IN INFLAMMATORY DISEASES OF THE AIR PASSAGES.

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My attention was first attracted to the therapeutical uses of calcium sulphid in inflammatory diseases of the air passages by an article which appeared in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, April, 1892, written by Edward F. Wells of Chicago. Dr. Wells has been using this drug in tuberculosis for a number of years and claimed to have had good results in selected cases. He had antedated Burgeon's treatment of rectal injections of sulphuretted hydrogen gas by several years. It seems that his attention had first been called to this treatment by noticing that his tubercular patients who frequented sulphur springs improved more rapidly and uniformally than those going elsewhere. There seems to be no doubt in my mind that to a certain extent that this drug has a beneficial but not curative effect in tuberculosis, as my experience leads me to know that I have seen cases in which it ameliorated the symptoms, resulting in a number of cases in an improvement in general condition and a gradual reduction of fever conducing to the general comfort and well being of the patient. In several there seemed to be a cure, but I am satisfied after a more extensive use of the drug that I was mistaken in my diagnosis, especially as there was no microscopic examination of the sputa made, although they had other signs of tubercular disease. These apparent cures were probably cases of purulent bronchitis, a disease not uncommon in very miasmatic districts and frequently accompanying remittent and intermittent malarial fever. In these fevers with the lung complication I invariably give a calcium sulphid and quinin combined with excellent results. In abscess of the lungs it seems to have a beneficial effect, liquifying the contents of abscess more rapidly and hastening its discharge.

Within the past two years I have treated not less than fifty cases of pneumonia with an extremely small per cent. of deaths, giving quinin four grains, calcium sulphid one grain every two hours for four doses and then every three hours in connection with 1-75th of a grain of nitroglycerin, the latter in place of alcohol. Pneumonia is a disease of a serious nature in the section in which I am located on account of the complications of anemia following malarial disorders, and my death rate was much larger under the old treatment including the free use of alcohol that it has been under my present mode of treating this disease. The calcium salts seem to inhibit the pneumonic inflammation to a great extent, in which way I do not know, but imagine on account of it being an anti-uric acid remedy of no feeble power, and that the uric acid diathesis is a predisposing cause which favors the activity of the pneumococcus in the production of this disease. Nitroglycerin, a remedy which has been advocated a number of years in pneumonia, has in my hands filled my utmost expectations in relieving the lungs by dilating the arterioles of the system and hence relieving the venous congestion. It also more than takes the place of alcohol as a stimulant as it has no bad effect on the digestion, and flushes the kidneys, thus assisting to relieve the body of effete material.

It is more especially in the inflammatory diseases of the throat, tonsillitis and quinsy, that I have most remarkable and gratifying results by the use of calcium sulphid. I had not seen the use of this drug advocated in these affections, but going upon the well-known fact that its use modified the furuncular inflammation, frequently preventing the formation of abscess, I was lead to the conclusion that it might in the same way inhibit the tonsillar inflammation. I commenced with small doses, one-fourth of a grain every three hours, but not getting good results, increased to one grain doses every hour until four doses were

[1] "An Air and Water Irrigator and Drain for Prolonged Douching in Deep Cavities." New York Medical Journal for May 27, 1893.

taken, then every two hours for six doses, then every three hours apart until all inflammatory symptoms would disappear. These are seemingly large doses but I have observed no bad effects of weakness in any case. In the past four years I have treated not less than one hundred and fifty cases of quinsy and tonsillitis according to this plan and have recollections of only four cases in which it failed to relieve promptly and effect a perfect cure in from two to six days. The relief is so sure and prompt in my hands that I am inclined to think that perhaps local conditions in this miasmatic climate favor the production of those cases of tonsillitis which are more amenable to this treatment than it would be in other sections.

Many of these cases had been treated by other drugs such as guiacum, the salicylates, quinin, opium and salol during former attacks, but I found that the calcium sulphid relieved and effected a cure more rapidly than the other treatment. Recently I have seen it advocated in tonsillitis but think the reason why more uniform success has not been obtained in its use is in not giving it in large enough doses. If the heart acts feebly in any case, or there are organic lesions I use heart stimulants such as small doses of digitalis and nitroglycerin combined, for fear that the calcium sulphid should have a depressing effect in these cases. In no case have I used local applications of gargles, simply confining myself to the use of the single drug and in a few cases giving an opiate. I also would keep the bowels open with salines and allow a restricted diet. I do not see the necessity of using the new drugs advocated in this disease when we have an old one which relieves more certainly and promptly than any other.

CATCHING COLD—ITS CAUSE AND PREVENTION.

Read by invitation before the St. Louis Academy of Medical and Surgical Sciences, Nov. 28, 1896.

BY FAYETTE C. EWING, M.D.

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I think I may assert without fear of contradiction, that there is no commoner morbid condition to which the human family is subject, than that designated "a cold." People speak of having "caught cold," by which they do not mean that they considered the condition so desirable that they troubled themselves to lay hold on it, but rather, the opposite, whereby the pathologic process inaugurated itself in their systems in spite of their desire and attempt to escape it. Again, almost invariably, the adjective "bad" is prefixed to "cold," so that by common consent we have only "bad colds." All this serves to emphasize a point I wish to make, viz., the absolute fear in which that congestion of various organs resultant from meteorologic conditions is held by the laity. This is not surprising, when we consider that fully three-fourths of the diseases of the respiratory passages, constituting such an important class, originate in colds; and added to these are many, of other organs, that are indirectly due to the same cause. When we realize the importance of the subject, it seems strange that there should be no unity of opinion among physicians as to the precise manner in which it is acquired. Numerous theories have been advanced, yet none seem sufficiently substantiated to be accepted by the profession at large. Of those that have been held worthy of note, I may call attention to the following: Rosenthal declared that a lowered temperature, acting upon the peripheral vessels excites contraction shutting off the blood current and causing congestion and inflammation of internal organs. This assertion is not above reproach, for, very often parts that are not internal are affected: The Schneiderian membrane lining the nasal tract, is more frequently attacked by inflammation than any other portion of the anatomy, and it is not internal, since it is always exposed to the atmosphere.

Seitz affirms that the morbid state we are discussing, is occasioned by the removal of heat from some part of the body resulting in a functional derangement of the heat centers, with attendant pathologic changes in some organ possibly distantly removed from the part exposed. The fact that some time elapses between the exposure and the condition may be accepted as favorable to this theory.

Woakes believes in a vaso-motor disturbance using the term "modification of nutrition," arguing for a uniformity of type. He declares that there is a normal animal mechanism represented by the sympathetic chain of ganglia through its afferent and efferent branches.

Bosworth more forcible and comprehensive than the others, accepts Seitz's theory in part, but attributes the effect to those nutritive changes that are ever progressing, and whose proper functioning is dependent upon the temperature being maintained at 98.6. He affirms that, "In the ordinary phenomena of taking cold, we have still the results of a low temperature acting on the heat-producing processes, but in an indirect manner. The direct action of the cold is, as a rule, upon the surface of the body, but the resultant morbid condition is upon some organ remote from the exposed part. In both cases, however, the cause and the effect are the same, and the connection between the exposure and the resultant inflammatory condition is the disturbance of those nutritive changes in the tissue which result in the production of animal heat." The nutritive processes in every part of the body are controlled by a central nervous system from which there is a general distribution of force. The "nutritive changes" having been arrested, or interfered with, in a certain portion of the body, the central system contributing the same amount of force, naturally there results increased nutritive activity elsewhere, constituting inflammation. The fact that the nasal membrane, in this climate, is generally affected with more or less chronic inflammation, makes it the point of least resistance and accounts for it being most commonly attacked. Bosworth illustrates this by citing the example of a chandelier whose jets represent the nutritive processes and the supplying stem the central nervous system. Should all the jets be lighted at one time, the result is even light, but when we turn off all except one, this one flares up unevenly with extra force.

PREVENTION OF COLD—NATURE'S PART.

That catarrhal diathesis which predisposes to colds, may be hereditary, or acquired. Its avoidance or prevention when once established, can be accomplished only by a gradual hardening of the system, which must be educated to the making of an amount of heat

to compensate for that which is lost under circumstances of extra radiation. The conditions of life on this sphere, render exposure inevitable—we can not dodge it. Rich and poor, high and low, one time or another, will feel the breath of this *bête noire* of our existence, who gives no quarter, and shows no mercy. Only by fashioning ourselves to withstand its assaults, can we hope to win in the "rough and tumble" battle, with this "catch as catch can" wrestler. Nature, our universal mother, seeming cruel, is often kind. She is the great equalizer, ever ready to give here, for what she takes there. She will deal fairly with us if we trust her, but we must not ignore her rules. Today, with irrevocable hand, she presses into place one chord of that divine instrument we call the larynx, and tomorrow, with compensating kindness, she sweeps the other across the median line, that it may vibrate in touch with its fellow, and, where there was silence, there is song. Should indifferent chance stop an ear, she makes its mate responsive to higher keys, and lower tones, that the harmonies of life's little time may be not lost. She shapes the body to the shortened limb, that grace may move without a halt. Pomona-like, with hands full-fruited, she would give what is asked, but is zealous of our faith and thrusts nothing upon us. She would forestall the finger of time, and with its line of wrinkle trace a smile; she it is, who lifts the weary heart that tears may be delayed. Nature is constantly striving to adapt herself to our necessities, but she may need time in which to weave for us a garment not made with hands. When heat is demanded, she endeavors to make it, but when her services have been spurned on so many occasions as to constitute a lengthened period, she can not be expected to supply in emergency. On this principle, she deserts the man who wraps his throat to scare away the roaring elements with a red rag. She is jealous of the rag, and the latter's services having been invoked in preference to her, she declines to interfere when it happens to be left at home. The hardening process should begin with infancy. Should the timid and captious knit their brows at this wholesome doctrine, I would add that we do not consider feather-headed mothers, nor that lighter genus, hysteric fathers, who are ever ready to trace a cold in their children to some supposed indiscretion of their more sensible wives. Intelligent discrimination is always required in the interpretation of hygienic rules. Idiosyncrasies are inevitable, and since no two constitutions are exactly alike, only directions that are generally applicable can be laid down. Each parent must discern any condition that would render the rule applicable to her child, or only in a modified form. A person may become strong, or delicate, through habit. Habit is a knife that cuts both ways—he who wields it, may turn it for, or against, himself. Nature gave us hair as a protection to the scalp, and but for habit, one would contract cold not more readily from lack of covering on the head, than from exposure of the face. Children, from infancy, should be accustomed to bare heads. That foolish woman, so solicitous lest the cold penetrates her baby's skull, might still her fears, if she would pause long enough to recall her girlhood days, when habit enabled her to dance all night in a draughty ballroom, with, mayhaps, nothing more substantial to shield her neck and chest from the flirting zephyrs, than a coat of paint. The *fin de siecle* mother lolling in her cushioned carriage, with hands encased in fur, and rubber bottles at her feet, need but drive through "Hell's half-acre" of the modern city, to note the contrast in health between the ragged urchins with snow numbed feet, and her puny pale-faced boy she left at home because it was "too cold to take him out." Truly, nature "tempers the wind to the shorn lamb." The free air grows the rose, and the sunlight gives it tinting, whether on rocky soil, or velvet cheek. Coddling and care can not save us from the demon we dread. A large proportion of the human family earn their livelihood in the open air, with the attendant exposure. In such climate as that of Western Oregon and Washington, where rain is steadily falling for half the year, people go about their business oblivious to it, so far as a consideration of the effect upon health is concerned. Daily contact soon inures them to it, and the diseases resultant from exposure are not materially multiplied. What necessity does for the poor, compelled to toil in rain or shine, and for the inhabitants of the Puget Sound district, we, who are more favored in environment, may do for ourselves by applying the universal law, which teaches that the more we house ourselves, the less vigorous become our constitutions in direct ratio as we pamper an organ, its susceptibility increases.

Admitting the stability of our argument, we may pass to an enumeration of some of the special factors in the production of colds. The evils arising from over-wrapping have been lightly touched upon, but in discussing the very important matter of

CLOTHING

it would be well to be specific. If we admit that the theory of catching cold is based upon an interference with nutrition in some portion of the body, we can not deny the necessity for warm and comfortable covering that will insure equable protection for the heat forces in every organ. Opposed to this, are the commonly used chest protectors that every druggist exhibits in his window as a preventive of lung and bronchial disease. Acting in a similar manner to the flannel throat-band, or woolen muffler, they contribute to the delicacy of the parts they cover, and bring about the troubles they are supposed to prevent. Fur caps and boas are equally an abomination, and according to Bosworth, the deaths in New York City, resulting from the use of seal skin sacques, exceed those from smallpox. A lady proud of her five-hundred dollar furs, calls upon a friend and sits in a furnace-heated house in a temperature of 80 degrees F. for several hours, because she would not think of removing so enviable and becoming a garment. She becomes overheated, goes home in a zero atmosphere, is suddenly chilled and finds herself in bed the next day. This is not an exaggerated illustration of the evil effects of concentration of clothing. We are constantly being called upon to treat lesser ills, yet the thoughtless victims would scorn to acknowledge the cause. No clothing compares to wool as a preventive of heat radiation, because none is so light, porous, and elastic. It is also absorbent, but does not absorb into the fiber. Cotton, linen and silk, are heaver, less elastic, much less porous and far better conductors of heat. The perspiratory glands assist us in the elimination of effete matter, and in using wool next the skin we have a material that takes up the perspiration and prevents a constant soaking in our excreta. One should wear wool the year round, and now that so many weights are manufactured and of such soft texture, the garment may be adapted to the season. The better plan

would be to confine oneself to the medium weight and have outer clothing suitable to the season. A person should wear just enough clothing to keep him from discomfort, no more, no less. Having observed in my practice, the undesirable results from over-dressing, and being convinced of the invariableness of the law I am trying to impress upon my readers, I am tempted to say that given an intelligent subject, if the exposure is to be for a short time only, when the thickness becomes a question for decision, dress in the light rather than the heavy garment, and trust the heat centers to supply the possible deficiency. Physicians, whose vocation calls them out at all hours, realize how frequently they miss their estimate of the weather, and find themselves too thinly clad, yet they may experience no ill effects, because of the movement which increases the supply of animal heat. A man may subject himself to such condition as to cause a tremendously increased radiation of heat from his body, as for instance when in swimming, and catch no cold, for the same reason. The motion stimulates the heat-making machinery, and compensation is maintained, yet if a bath be too prolonged, the processes tire, are unequal to the strain, and the bather becomes chilled or cramped. As a rule, Americans load themselves with heavy clothing and have their feet—whose large amount of surface exposure makes them excessive radiators of heat—covered with thin stockings and paper-soled shoes. If we would only learn from observation of our more robust English cousins, one source of catarrh would be removed. Rubbers are useful enough in heavy rains, but we should not make ourselves dependent upon them because of wet streets, but guard against such dangers by wearing thick soled shoes and woolen stockings. The feet are so much in contact with cold pavements and dampness that they are least adapted to scant covering.

THE AIR WE BREATHE

contains anywhere from 60 to 80 per cent. relative humidity and along the seaboard it may range as high as 90 per cent. This moisture is necessary to the preservation, in a healthy condition, of the mucous membrane lining the air passages. In mountainous climates where the relative humidity is very low, the muciparous glands of the Schneiderian membrane become exhausted in their extra endeavor to supply the deficient moisture necessary to the dry air passing into the lungs. Watery vapor prevents dessication, and if the air we breathe did not contain moisture, both animal and vegetable life would be impossible. Fishes die when removed from the water, though the air contains much more oxygen than the water, and all organisms would perish if deprived of atmospheric moisture. Dew and rain have been called the scavengers of the atmosphere. According to present scientific knowledge, certain atmospheric particles are considered accidental, and of these dust occupies an important place. Of the various kinds of dust, some are very deleterious to animal life, though most of them are harmless. Yet, if we eliminated the aqueous vapor, suffocation would result. Therefore we have a ready explanation of the unhealthful effects of

FURNACE HEAT,

which dries the air we breathe, giving the muciparous glands additional work, tending finally to their exhaustion, weakening the system in part and whole, and making a constitution incapable of enduring sudden and prolonged exposure. Children should be kept out in wind and sent out in weather. Every hour passed in the open air tends that much toward developing a constitution that will last to three score and ten. This, of course, applies to children with normal or open respiratory passages. No child with obstructed nose can escape the cold-catching habit. The function of the nasal passages, which are sufficiently supplied with blood vessels to elevate its temperature several degrees, is to cleanse and warm the air destined for the lungs, as well as arrest the multitudinous microbes with which it is laden. Whether on ice or snow, the shifting sunbeam is never cold; no parent need fear the specter that would seize the racing, rollicking, well-wrapped sprite that glows with its own heat. This brings us to the consideration of

THE DAILY BATH.

The Americans are not a bathing people; certainly not in the same sense as the Englishman, who has been known to take his tub traveling with him, that he might not forego what is a delight to him as well as a necessity. We build our palaces and construct marble pools that a Roman might envy, and hang our bath rooms with paintings as suggestive as the Venus Anadyomene, worthy Apelles' fabled touch, yet we forbear to take the plunge. When we do perform our ablutions it is for cleanliness alone. Remembering that cutaneous transpiration has much to do with the proper regulation of animal heat, and is largely dependent upon the functional health of the skin, we should be sufficiently impressed with the necessity of the bath as a matter of hygiene. Indeed, bathing for cleanliness is of secondary importance. Nothing conduces more toward strengthening the system and making it proof against colds, or breaking off the habit when once established, than the daily bath, which is best taken on arising. The water should be cold, direct from the hydrant, and in winter the temperature of the room at least 60 degrees F. The sponge, shower or plunge (selected according to the constitution of the bather) should be accomplished within a minute. It is well to begin with the sponge, which can be taken by all except the most delicate. The sponging can be taken as readily by wringing a towel sufficiently to prevent dripping, and sawing it rapidly over the body. A quick drying follows, and this, succeeded by a vigorous rubbing with a coarse linen crash, until the body is in a warm glow. The test is the after-feeling of well-being and warmth. Should these directions be carefully complied with and this reaction absent, there are some special reason why the bath is contraindicated. The wrapping of a towel, wet with cold water, around the neck preliminary to the general dip, tends to stimulate the throat's resistance to sudden draught and cold.

FOOD

exerts an undoubted influence in producing that vigor and strength of constitution that is required to withstand varying atmospheric conditions. In supplying the table the season should always be considered. We know that fatty and albuminous foods contribute more heat than vegetables and fruits; and for this reason such a diet is indicated for cold weather and should be curtailed with advancing summer. The Esquimau, influenced partly by the law of environment and partly by that instinct which guides an animal in selecting what

is best for its needs, subsists entirely upon fats and oils. The South Sea Islander, with as little design, turns to succulent vegetables and fruits. The exigencies of life, thus supplied by nature in opposite zones are combined in our varying climate, and we should be guided into an intelligent application of what is best suited to our requirement. The system is capable of oxydizing just so much food, and when we overcharge it with heavy eating in spring, giving it more fuel than is necessary to keep the furnace heated to 98.6 degrees, the body's temperature, we find it overtaxed and the blood charged with effete matter, constituting spring fever. Thus we may appreciate the wisdom of the Catholic church in establishing its period of abstinence in the early spring.

PUERPERAL ECLAMPSIA, WITH REPORT OF A CASE AND TREATMENT.

BY NORMAN W. BELLROSE, M.D.
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I doubt very much if there is a disease of pregnancy in regard to which there is a greater diversity of opinion as to its etiology and pathology than puerperal eclampsia. Do we know its cause? Yes, I think we do.

Braun tells us that the kidneys are responsible, and is an advocate of the nephritic origin. Playfair, on the other hand, does not consider the albuminuric theory as clearly proven. Lever, in 1843, pointed out the connection between albuminuria and eclampsia, and that the two conditions occupied the relative position of cause and effect.

Further investigations, however, lead one to believe that the kidneys are not wholly responsible. In twenty-eight cases of eclampsia reported by Schauta, three were found to have normal kidneys. Ahlfeld found in seventeen cases two in which the kidneys were normal.

Vinay, after making thorough microscopic examination, states that in a large number of cases the disease can hardly be attributed to renal lesion. Rivere, Auvard and others declare eclampsia to be a form of auto-intoxication. I believe that the theory of toxemia, not one but several different poisons, is generally upheld. I am a firm believer in the toxemia theory of Rivere and Auvard; but, nevertheless, I can not but believe that the kidneys play an important part in the toxemia of eclampsia.

Bouchard has said that man is constantly menaced by poisoning. He labors each instant for his own destruction, making incessant attempts at suicide; nevertheless this intoxication is not realized, for the organism has multiple resources to escape it.

It is not necessary for me to tell you that in pregnancy the composition of the blood is profoundly altered, and that the quantity is somewhat increased. Why is this? Because the quantity of blood before pregnancy is inadequate to meet the condition of pregnancy. We know the pregnant woman has to provide nutriment to breathe, to maintain blood circulation, to secrete and excrete for two individuals, herself and her fetus. All this means that extensive changes in the general system must occur. In order to carry on this extra work properly, certain viscera of the circulatory apparatus become somewhat modified in size and in function. I might mention the heart, the hypertrophy of which is a wise provision of nature to meet the increasing demands of the blood supply in the advancing months of pregnancy. Other organs are likewise increased in size, namely, the liver, spleen and kidneys. The lungs and skin also become more active. Why is this change? My answer is, nature has an increased amount of work to do, and such being the case, she endeavors to increase the working capacity of her organs accordingly. It is my belief that in eclamptic cases the kidneys (possibly the liver, lungs and skin) fail to accomodate themselves to the extra work that the pregnant state requires of them. You are aware that the kidneys excrete largely from the solid constituents of the blood, and that many of the inorganic salts of the urine are elaborated in the kidneys. Toxic substances in the blood, whether generated within the body or derived from without, are in a great measure eliminated by the urinary organs. In pregnancy the need of this elimination is necessarily greatly increased or should be. If the kidneys fail to do this extra amount of work, accumulation is produced and intoxication results. At first this is hardly noticeable; but as pregnancy advances and the amount of toxic matter to be eliminated is increased in the blood, the greater is the effect of the poisons on the great nerve centers, and as a result, other symptoms develop that are characteristic of eclampsia.

Some writers state that eclampsia is the result of albuminuria, which is caused by intra-abdominal pressure, thereby interfering with the renal circulation. If this be true, why is it that a non-pregnant woman can have her abdomen as greatly distended by an ovarian tumor as from plural pregnancy at term, and yet not suffer from either? Statistics tell us that one in three hundred women who bear children suffer from eclampsia, and that about twenty-five per cent. of them die. I can say that I have had two cases out of a record of two hundred and fifty pregnancies. I take pleasure in making report of one of them. I can say, however, that both of my cases made a good recovery.

Mrs. A., primipara, 23 years of age, pregnant about 265 days. She enjoyed fairly good health up to within about fifteen days of full term, having had only light attacks of headache from time to time, with some stomach symptoms. On April 16, 1893, she first noticed that her feet were somewhat swollen. On April 18, about 3 P.M., she was taken with a severe headache, which grew gradually worse until about 8 P.M. At this time it was almost impossible to endure. Not suspecting anything serious, both she and her husband thought it would "wear off" after getting some sleep. She failed in doing so, and at 10 P.M. the pain in the head was no better. I was called about 11 P.M.; arrived fifteen minutes later. I found my patient in a very restless condition; the pulse was tense and about ninety-five to one hundred beats per minute; some nausea and vomiting. The quantity of urine voided during the preceding twenty-four hours was thought to have been about two and one-half pints. About one-half hour after my arrival she had a severe convulsion (epileptic in character), which lasted about five minutes. It was followed by more or less stupor. She would answer all questions rationally but slowly. I at once gave a five grain powder of phenacetin combined with one-eighth grain of morphia sulphate, which relieved the head and nervous symptoms for a short time. Her family physician, Dr. J. Hawes, of Greeley, Colorado, was then sent for; he being out of town, Dr. Wallace was

called. He arrived about 2:30 A.M. on the 19th. There was no question about diagnosis. Fluid extract of veratrum viride was given hypodermically, every two hours, beginning with two-drop doses, and was gradually increased one drop at a time until ten drops were given. Dr. Wallace remained until 3:30 A.M., and at Mr. A's request I took charge of the case. At 4 A.M. she had a second convulsion which was of longer duration and more severe in character. The face became more congested. She then went into a profound coma, and did not recover consciousness until about 10 P.M. After the second attack I immediately began giving hydrate of chloral and potassium bromid, of each thirty grains, in four ounces of warm water, per rectum, and repeated every three hours. The convulsions continued in spite of treatment, and by 11:45 A.M. April 19 she had had seventeen. Eight o'clock next morning I decided that the best thing to do was to empty the uterus, and the sooner the better for the safety of the mother and the child. Dr. Wallace was again sent for; he not having arrived at 10 o'clock, I proceeded to prepare the patient and myself for the operation, which was conducted under strictly antiseptic conditions. Squibb's chloroform was administered, more for the purpose of controlling the convulsions than pain, as the patient seemed to be insensible to pain, A soft rubber catheter was then passed into the bladder and about a pint of dark colored urine was obtained which contained about one-fourth in volume of albumin. Dr. Wallace had not arrived at 10:30, so I decided to operate at once with what assistance the nurse could render. The manipulations necessary in dilating the os excited uterine contraction and by the time I had sufficiently dilated it to admit the hand, the child's head had decended and version was impossible. Forceps were applied, and at 11:45 I succeeded in delivering a nine-pound boy. Life was extinct, however. I labored with it for some time, but without success. The placenta was removed by Credé's method with very little difficulty. Post-partum hemorrhage was very slight.

The veratum viride was then continued in nine-drop doses hypodermically every two hours, as was also the hydrate of chloral and potassium bromid every three hours. Rectal enemas of peptonized milk were given every four hours. I also used dry cupping and sinapisms over the kidneys. As soon as the patient could swallow, a thirty-grain powder of compound jalap powder was given in a little water to open up the bowels, and a saline laxative given daily to keep up a free action. After consciousness was restored the hydrate of chloral and potassium bromid were discontinued, and potassium acetate with infusion of digitalis was given instead to keep up a free action of the kidneys. The usual diet and tonics were then given. Up to 6:30 P.M. April 19, she had had twenty-seven convulsions, making seventeen before the operation and ten thereafter. The albumin disappeared from the urine in about ten days. Diplopia was complained of from the fourth to the seventh day. My patient sat up in bed on the tenth day, and on the fourteenth day was dressed. She made a good recovery.

Wilson, Hammond and others, tell us that the eclampsia of pregnancy is caused by the presence of an excess of urea in the blood. How can this be, when Bouchard tells us that to kill a man, it would require the quantity of urea which he makes in sixteen days? Clinical observation is therefore here in accordance with experimentation in denying to urea the power of producing the intoxication called uremic.

It seems to me that if the nephritic origin of eclampsia is correct as many writers claim, the kidneys would not have cleared up as quickly in this case. I do not think that the nephritic symptoms were in proportion to the gravity of the eclamptic manifestations. In closing I wish to state that I think it is a mistake not to induce premature delivery when the child is viable in eclamptic cases that do not respond to treatment after a fair trial. I firmly believe that in Mrs. A's case the child's life might have been saved if delivered after the third or fourth convulsion.

Since reading the above paper before the Colorado State Medical Society I have again attended Mrs. A. in confinement. The following is a brief history of the case: April 22, 1896, Mr. A. informed me that his wife was again pregnant, and thought "she was about five months along." He was greatly alarmed about her condition, fearing that she would again suffer as in her former pregnancy. I consoled him with the assurance that if the bowels and kidneys were kept active, that I did not think there was much danger of her suffering as before. I requested him to bring me a four oz., bottle full of her urine about every two weeks for examination. The first sample was examined on May 22. The examination revealed the following condition: Sp. gr. 1020, reaction faintly acid, albumin none, average amount voided in twenty-four hours at this time was about fifty ozs. Bowels acting from one to three times a day. She had at times a sense of fullness in the head, but it was never severe. Appetite good, obtaining from six to eight hours sleep in every twenty-four. Her condition remained pretty much as above stated, until about July 1, at which time she had some swelling of her feet, but it never interfered with her wearing her shoes. She also had some headache at times. Appetite was still good. Sleeping quite well; bowels and kidneys still active, some days passing as much as sixty ozs., of urine in the twenty-four hours. July 15 urine slightly turbid, sp. gr. 1015, reaction acid, amount forty-five ozs. She had slight diarrhea, and some nervous symptoms. Drank a great deal of water, so special attention was given to diet. Mr. A. did not bring any more urine for examination. It was not convenient for him as he lived 7 miles in the country; further he did not think it necessary as his wife was "getting on so well." On August 31 I was called to attend her in confinement. She was about four hours in labor, some adhesion of placental membrane, otherwise the labor was normal in every respect. Child, female, weight, eight and one-half pounds, well nourished and active. One-half hour before delivery, urine was voided, later examined and found free from albumin. Pulse, five minutes before birth of child's head, 98, full, soft and regular; ten minutes after completion of labor, 88, character the same. On my return visit (3rd day) she told me that she felt strong enough to sit up, but was instructed not to do so before the ninth day, at the earliest. She is now enjoying the best of health.

The above case demonstrates very clearly to me the fact that a woman once having suffered from an attack of puerperal eclampsia, and who recovers without any permanent injury to the kidneys, will not necessarily suffer from a second attack, if she again becomes pregnant. I do believe, however, that when the kidneys are permanently injured (whether the injury be great

or little) that she would be predisposed to trouble of this kind and that the danger of a second attack would be great. I have been unable to find anything in the text-books that I possess (and they are some of the best) bearing upon this subject. About one year after Mrs. A.'s first illness her husband consulted me, wishing to know what the chances were for his wife to again suffer from convulsions, if she should again become pregnant. I told him that the chances were *very* great, and that a second attack might prove fatal, but it seems that I was mistaken.

The above case is convincing to me that puerperal eclampsia is not caused primarily by a diseased condition of the kidneys, but as before stated, I believe the poisons, or toxic substances, whatever they may be, accumulate in the bloody, and if not eliminated through the natural channels, will produce inflammation of the kidneys, hence the origin of albuminuria. In some cases the great nerve center first becomes affected, causing the convulsion, the kidneys being only secondarily impaired; but if the toxins are eliminated through the natural channels the kidneys and nerve centers remain unimpaired. I believe it is the duty of every physician engaged to attend a case of confinement, two or three months in advance of the expected time (as they sometimes are), should in every case of swelling of the feet, especially if accompanied with some headache and stomach symptoms, give special attention to the kidneys and bowels, and in bad cases the skin and diet. By so doing, much or all of the "toxins" that accumulate to excess in the blood, could be largely eliminated, thereby preventing a possible attack of puerperal eclampsia.

A RATIONAL TREATMENT OF DIPHTHERIA WITH OR WITHOUT ANTITOXIN.

BY EMERSON M. SUTTON, M.D.
PEORIA, ILL.

Recognizing the doubts of all treatments, I submit four cases taken from my case book which were true diphtheria occurring in an epidemic, and which show a positive result:

Case 1.—July 18, 1891. Patient, a female, aged 15. Two brothers had just died of diphtheria when she contracted sore throat and fever with constitutional symptoms. The membrane formed over the posterior fauces, extended anteriorly and to the sides of the throat. Treatment, spray 2 per cent. cocain sol. very carefully and small amount, followed by second spray of Condy's fluid. Ordered to be repeated each hour till all soreness was relieved. Internal treatment, zinc sulpho carb. 1 gr. each hour. Quinia and iron tonic every three hours. Food every fourth hour, taken after spraying. Result, second day membrane disappearing from anterior pillars and only patches left on sides. No fever. Good appetite. Third day, no patches remaining, inflammation subsiding. Fourth day, throat not the least sore. Fifth day, discharged recovered.

Case 2.—July 11, first symptoms developed in boy aged 6. Membrane formed on sides and back of throat. Constitutional symptoms profound on the 13th, when first seen. Treatment: Cocain spray three times a day (at each visit). Permang. potash sol. spray each hour; gargle of solution every fifteen minutes or one-half hour. Internally iron and quinin. Pepsin cordial after food, which was always following cocain spray. July 14, throat not so sore; membrane disintegrating; general condition good. July 15, membrane only in patches. July 18, discharged well.

Case 3.—October 28. Boy aged 8 sent home from school with fever and sore throat, treated by family physician for tonsillitis. October 29, no better under sprays, antipyretics, etc. October 30 and 31, patches coalesced, forming membrane, constitutional symptoms became alarming. Treatment inaugurated for diphtheria October 31, spray 2 per cent. cocain sol. followed by Condy's fluid. Spray every two hours. Internally, milk every three or four hours; 5 drops each, digitalis and nux vomica tinctures in spirits of mindererus at same intervals as food. November 1, constitutional symptoms less profound, membrane disintegrating. Additional treatment, 1 gr. mild chlorid followed in six hours by magnesia. November 2, much better. Nov. 3 and 4, membrane disappeared, sleep undisturbed after 8 o'clock evening spray. November 5, eats, feels well. Tonic given of quinia and ferrum. November 6, discharged well.

Case 4.—B. N. aged 11, December 3 contracted diphtheria from association. Constitutional symptoms severe, great prostration, membrane extensive, extending to anterior nares. Treatment: Carbolic acid gr. 1, cocain 2 per cent. sol. ℥ii, use spray cautiously every two hours, gargle every fifteen minutes with Condy's fluid. Internally, tonic, calisaya. December 4, soreness disappeared, membrane disintegrating, less inflammation. December 5, patches only remaining. December 6, patches disappeared. December 7, discharged well.

Not going farther into the pathology than to state that either preceding membrane formation an intense hyperemia may exist and form a local affection at first, the disease becoming constitutional as well at a later period, or the constitutional may precede the local symptoms, but at the point of infection passive hyperemia first takes place and exudate follows. A treatment that will relieve this hyperemia will prevent the exudate and subsequent systemic poisoning. Such a remedy is a 1 or 2 per cent. cocain solution acting on the capillaries, used in the form of spray. I first tried this in 1891, after noticing the continuance and even increase of the primary congestion following the use of the usual spray, especially observed after hydrogen peroxid, and I found that the immediate relief from the soreness was so manifest that it required no coaxing to gain consent for repeated treatments. The patient could take nourishment at once following the spray, which is itself a great desideratum, and recovery has taken place rapidly in every case, more of which I have to report. A word as to spraying. In some cases it was necessary, at first, to have the patient inhale the spray, as the deeper parts of the throat were affected, and in none of the cases were untoward effects observed.

328 Woolner Building.

TUBERCULIN IN OBSCURE MANIFESTATIONS OF TUBERCULOSIS.

BY W. H. WEAVER, M.D.
CHICAGO, ILL.

If the earliest symptoms and signs of consumption were as easily definable and as pathognomonic of the disease as those manifested in the later stages, it might be easily diagnosed in its incipiency. But, unfortunately, this has not been the fact. In a great many cases the onset is sudden or occurs during the progress of a severe cold or bronchial catarrh, or following in the wake of some other acute disease. Frequently, however, it is ushered in by symptoms which point to no particular form of disease, and it is this class of cases that is the most puzzling until we find pronounced symptoms pointing to lung infection. There are often certain symptoms of a general constitutional impairment, insufficient in themselves to render a diagnosis possible, but which do point to a definite disease if properly studied. There are many cases occurring in active practice in which a positive method of diagnosis would be of the greatest advantage. It is often easy to find out what a disease is not, but to tell what it is, is quite another matter.

The patient calls upon his medical adviser frequently, with the consciousness that there is some-

thing wrong. He is told that he has a little malaria or biliousness, and probably the diagnosis is changed frequently at the appearance of new symptoms. Restrictions of diet and some other measures directed toward the improvement of digestion improves his condition for a while. These measures soon fail and the case has advanced another step. There is now a thicker coating on the tongue, a general feeling of malaise with loss of appetite and possibly diarrhea, intestinal indigestion or constipation. There is anemia, insomnia, rheumatic pains or intercostal neuralgia, and possibly the heart's action is accelerated, fatigue toward evening with elevated temperature, chilly sensations and symptoms due to combined poisoning from the ptomains of intestinal fermentation and tubercle bacilli, which resembles malarial toxemia. The blood may be surcharged, or at least infected with tubercle bacilli and their products, long before any local inflammatory action is discoverable in the lung tissue, a sort of prolonged incubative period. Now to make a positive diagnosis of this condition would be to gain much time. There is but one recognized test which may be applied and that is tuberculin.[1] If there is reaction after a test dose of this agent the case is one of tuberculosis, and if afterward treated on that line rapid recover is certain. I have recently had under my care four cases which illustrate this use of tuberculin.

Case 1.—W. G., age 23, had typhoid fever one and a half years ago, from which he made a good recovery. During the past six months he had been steadily declining, continuously complaining of some new symptoms as soon as he had recovered from an old one; diarrhea, headache, loss of appetite, pain in the back, now and then a severe cold. In February he had afternoon fever, temperature 101 degrees F., pulse rapid, losing weight and constant fatigue, examination of lungs entirely negative. A small test dose of tuberculin was given and was followed in about ten hours by a characteristic reaction. About six weeks of treatment restored him to his former good health, which has continued to the present time.

Case 2.—Mr. W. H., age 38, for more than a year has been very susceptible to colds, followed by rheumatic pains in the back, indigestion, rapid pulse, increasing weakness, constant afternoon fever. During the fall of 1895 a severe cold was followed by a descending bronchitis, but no lung infiltration was discoverable, and no bacilli could be found in the sputum. However, a test dose of tuberculin was given and followed by a considerable reaction. Treatment consisted in the use of tuberculin and other measures indicated by his condition and removed every symptom of the previous trouble.

Case 3.—Mr. F. S., age 23, for several years has been subject to a mild form of asthma, seldom coughing but always wheezing and suffering from partial dyspnea. He came to me complaining of weakness, insomnia and indigestion; pulse 95, temperature 99.5 degrees F. Examination of the lungs showed sibilant râles heard over both lungs, no moist râles or other signs of localized infection were found.

This patient was found to be very sensitive to the action of tuberculin, but under its influence recovered from all the symptoms complained of as well as recovering his weight and lost strength.

Case 4.—Mr. F. M., age 22, came to me complaining of a protracted cold, pain in the chest and at times in the throat, cough and expectoration of mucus, loss of strength and weight. Examination of the chest and sputum both negative. Tuberculin gave the reaction and today the patient has entirely recovered from his symptoms.

In a recent article by Dr. Taylor of Minneapolis on "Tuberculin in Pulmonary Consumption" it is shown that 84 per cent. of first stage cases were greatly improved by his use of tuberculin. And as the cases are more advanced the percentage of improvement or recovery grows less. It is also true that a great many cases in the later stages may and do recover reasonably good health.

[1] Recently it has been proposed by Dr. Alfred Worcester of Waltham, Mass., as a test for human tuberculosis.

Now, if we can get the cases in the incubative or first stages a very much larger percentage ought to recover. There is no other method by which this test can be made. Inoculation of rabbits or guinea pigs with blood taken from the patient would hardly be reliable, because the particular specimen of blood obtained might contain no bacilli, and other sources of error would enter into the case, which would involve uncertainties. Tuberculin is used in detecting bovine tuberculosis and has probably never failed as a crucial test. It is undoubtedly just as reliable in the human subject.

Of course where there is expectoration containing bacilli no other test is needed than the microscope. If there is no sputum or no bacilli to be found, the test will be decisive.

It might be objected that as consumption is such a very fatal disease, unless there is some positive cure to be promised the fact of an early and positive diagnosis would be a source of great worry to the patient and sorrow to his friends which would only hasten the rapid progress of the disease. This objection is born of ignorance of both the disease and its treatment and should have no weight with one who has in his mind the welfare of his patient. That consumption is curable, especially in the stage under consideration—the first stage—should be firmly impressed on his mind so that he may not leave any stone unturned which will aid in his recovery. Next to the disease itself this general conviction that the disease "can not be cured" is the greatest obstacle the physician has to encounter in his efforts to enlist the energies of the patient. That physicians as well as others have encouraged a patient to "sin away his day of grace" by calling his disease bronchitis, malaria or something else, can not be denied. Ambition to do something in the right direction should have been instilled into him early, before he became too weak to help himself. By far the greater majority of patients seen by lung specialists are already far advanced in the second and third stages of the disease, and then we are requested not to let the patient know that he has consumption. Who is responsible for this immense loss of time and life?

Professor Jaccoud says in his work on phthisis that "pulmonary phthisis is curable in all its stages and in its two forms—the ordinary and the pneumonic." Tyndale says "consumption is curable." It has been the belief of the great physicians of Europe that consumption is curable—Celsus and Galen, Willis, Laennec, Rokitansky, Schuller and Koch. In this country Lindsay, C. T. Williams, Professor Flint in Pepper's System of Medicine, and Professor Loomis (in Practical Medicine) says that chronic pulmonary phthisis is not necessarily a fatal disease. And it is well known by every physician that cases in all stages recover every day. Now if it is curable in all stages it is certainly most easily curable in the first stage.

Let the profession educate the laity in this direction so that it may be regarded as a curable disease, and this great and general dread of the disease will gradually give way to the desire to know the truth, and a determination to coöperate in the efforts put forth to eradicate the disease. An early diagnosis and successful treatment will be demanded, and it will be counted criminal carelessness or a great misfortune for a patient to advance beyond the first stage of the disorder.

126 State Street.

PYORRHEA ALVEOLARIS.

PAPER NO. 3.[1]

Read in the Section on Dental and Oral Surgery at the Forty-seventh Annual Meeting of the American Medical Association, at Atlanta, Ga., May 5-8, 1896.

BY E. S. TALBOT, M.D., D.D.S.

CHICAGO, ILL.

This disease is evinced by simple inflammation of gums around the teeth, followed by chronic inflammation with or without suppuration, with or without calcic deposits, a gradual destruction of the peridental membrane, with recession and absorption of the alveolar process and gums, concluding with loosening and exfoliation of the teeth. The physician is more familiar with this disease, as it appears to him as a consequence of scurvy, mercurial or iodid salivation.

Few diseases have received as many names as that under discussion. More time has been spent in apology for and discussion of new names than in original research as to its etiology. The term pyorrhea alveolaris, which has become so popular, and which I have selected for the title of this paper, does not elucidate the exact condition, since many cases which come to the dentist do not suppurate.

Riggs's disease seems a more appropriate title, since to it is affixed an exact clinical picture of the various stages, from simple gum inflammation to wasting of the alveolar process and loss of teeth.

Many theories have been advanced as to the cause of this disease. None require discussion at this time, except the uric acid hypothesis advanced by Dr. Reese, of Galveston, Texas, May, 1885, and most forcibly advocated by Professor C. N. Peirce. This theory owes its prominence more to the eminent position of Professor Peirce than to the intrinsic value of the experiments upon which the theory is based.[2]

"I have had three specimens of this tooth deposit examined chemically by Prof. Ernest Congdon of the Drexel Institute, whose experimental skill is a sufficient guarantee for the accuracy of the results obtained. Specimen No. 1 contained, as shown by microscopic analysis, a number of fine needle crystals of calcium urate, a few crystals of free uric acid, and crystals of calcium phosphate. Destructive distillation analysis yielded a strong ammonia reaction. The murexid test for uric acid and its compound was faint, though the characteristic color showed in several places. Specimen No. 2 presented the same crystals on microscopic investigation. The murexid test was strong, producing a number of purplish red spots. Specimen No. 3 yielded similar results. In addition to these analyses by Professor Congdon, some six or eight specimens were examined by Prof. A. P. Brubaker, in my presence, the results obtained corresponding to those of Professor Congdon. In three of these, an abundance of urate of soda crystals were observed. It must be remembered that, as the quantity embraced in each specimen was small in amount, large results could scarcely be obtained or expected."

The publication of Peirce's researches led to investigations of the question, which demonstrated to me that patients may suffer with uric acid diathesis without pyorrhea or even chronic gum inflammation. Moreover, most people over 40 years of age are afflicted to a greater or less extent, while comparatively few have either lithemia or gout.

Certainly no physician would claim that resultant loose teeth were consequent upon scurvy or mercurial poisoning, uric acid much less. From the comparatively doubtful results obtained in so few cases, the claim seems far from warranted that pyorrhea is caused by uric acid or gouty diathesis. Since I prepared my second paper,[3] I have continued my examination with the view of obtaining the percentage of cases which actually show uric acid. These examinations were conducted personally by Dr. Jerome H. Salisbury, of the Northwestern University Woman's Medical School. The teeth procured from institutions which make a specialty of extracting were all selected by the writer. All contained the dark calcic deposit above the pus line.

Dr. Salisbury reports thereon as follows:

"I have examined a second series of 300 teeth by the murexid test and microscopically with following results: By the murexid test, six out of the three hundred gave a distinct reaction; eighteen showed crystals under the microscope. The murexid test was performed as follows: The deposit was selected as carefully as possible, removed from the tooth, and placed in a small porcelain crucible. A drop of pure nitric acid was added, and the mixture evaporated on the water bath. When dry the evaporation was repeated with another drop of nitric acid, and the crucible allowed to cool. When cool, the color produced by the nitric acid was observed, and then a glass rod, wet with ammonia water, was brought near the deposit, and any color produced was noted. If no color was observed, the ammonia was allowed to flow over the residue. A yellow color was produced in many cases by the nitric acid, which was deepened by the addition of ammonia. The microscopic examination was made by scraping off the deposit and evaporating it with a drop of hydrochloric acid. The residue was moistened with water, and the insoluble material placed on a side and covered with a coverglass. It was examined with a No. 7 objective. We may assert that uric acid occurs in a certain but very small proportion of cases of calcic deposit on the teeth."

Dr. J. A. Wesener, after an examination of several teeth from patients over 48 years of age, under treatment for uric acid, reports that the murexid test was negative and uric acid crystals were absent. Since there is some doubt whether the crystals are free uric acid or calcium phosphate crystals (resembling each other), and since but 6 out of 300 responded to the murexid test, it would seem justifiable to accept as a fair average 12 as responding to both tests. This would give 4 per cent., of cases of which uric acid was present. This corresponds closely with the results previously reported in my second paper upon this subject, when 5 per cent., was found. It will be remembered that the 215 cases were examined independently by two chemists of known ability.

While one-fifth of the 518 cases examined had decided lithemic or gouty symptoms, but 3½ to 4 per cent. gave positive results by the chemic and microscopic examination. These results seem sufficient to demonstrate conclusively that pyorrhea was not due to uric acid, and that uric acid when found is merely an expression of uric-acid diathesis. As so many colors are observed in the porcelain crucible, these examinations should be made by expert chemists.

Ten years ago[4] I published some observations on pyorrhea, which it was hoped some one proficient in

[1] Paper No. 1, Dental Cosmos, 1886, p. 689; paper No. 2, *ibid.*, 1896, p. 310.
[2] International Dental Journal, January, 1891.
[3] April Cosmos, and International Dental Journal.

microscopy would take up and pursue the investigations to the end, but these seem not to have attracted attention. Among the points then made was that pyorrhea was on the increase, that a large majority of patients suffered more or less from it, and that modern dentistry had most to do with the cause; that it was of local origin.

I still hold these opinions, since clinical experience in the different asylums of this country and Europe, as well as close observation of my office patients has given me a broad range to study the etiology of this disease.

Dr. E. Magitot, in 1867, published the most complete paper upon this subject, describing the disease in its progress to the end, but says that the gum being in all cases attacked subsequently only, is not the real seat of the lesion. The disease with which we are occupied, he says, "seems essentially characterized from an anatomic point of view by a slow and progressive destruction of the periosteal membrane,"

[4] Dental Cosmos, 1886, vol. xxv, p. 689.

a destruction of an inflammatory character, of chronic progress, proceeding from the neck to the end of the root, and leading without fail to the loss of the tooth. This special feature, its mode of origin, and the precise seat of the lesions, seem to justify the name alveolo-dental periostitis. But notwithstanding its primary origin in the periosteum and its complications with the gum and bony alveolar wall, the study of the successive morbid phenomena does not allow us to admit, as various authors have claimed,

Figure 1.

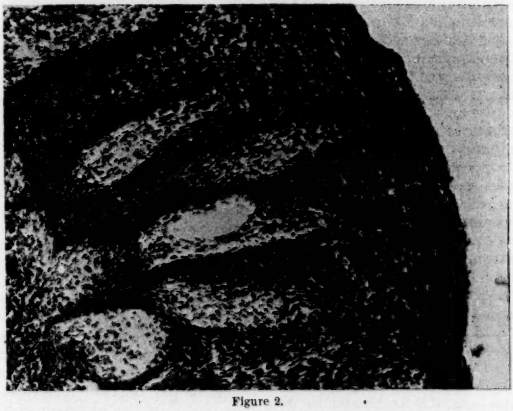


Figure 2.

that these parts are originally the seat of the disease. Dr. Peirce takes the same view.

I hold just the opposite; that the gum is the first tissue attacked, and these parts are originally the seat of the disease.[5]

Clinical observation shows that in the incipient stages of pyorrhea active and chronic gum inflammation and calcic deposit may attack one, two, three or even four teeth at once. General invasion of all the teeth *never occurs* at the same time, which would

[5] See original paper.

be the case if it were of constitutional origin. The calcium salts being in solution in the blood, are deposited. Only local conditions favor such deposits, which militates strongly against the uric-acid theory. As Ziegler[6] remarks, "the cause of calcification is for the most part to be found in local changes of the tissues, since the deposits of lime-salts usually occur in localities in which the tissue has already died or is in process of degeneration and necrobiosis. It looks as if dying tissue which has undergone more or less modification possesses a kind of attraction for the lime-salts in solution in the body, and enters into intimate combination with them. Among the degenerating or dead tissues which are particularly prone to undergo calcification, we may mention in particular connective tissue which has undergone hyaline degeneration, such connective tissue being quite often encountered in the walls of the blood vessels, in the endocardium, in an enlarged and degenerated thyroid, or in the thickenings of the pleura or pericardium. It is common also in degenerative areas in the walls of blood vessels, or in tumors, or in any other portion of the body in which hyaline and fatty degeneration are in progress, in degenerating cartilage, in dead cell bodies, as for example in dead ganglion cells or kidney epithelium (especially in corrosive sublimate, aloin, or bismuth poisoning), or in circumscribed cheesy areas of considerable size."

When a tooth associated with pyorrhea has been extracted, clinical observation shows that the margin of the peridental membrane has changed its locality. Instead of being in its normal position at the neck of the tooth, it has receded in a more or less irregular line toward the apex of the root. The extent of this recession depends upon the duration and power of resistance of the disease.

The membrane, instead of being thin and of a pink color, is quite thick and of a deep red. The inflamed membrane may extend through the entire length of the root, or in circumscribed localities. The space upon the root made vacant by the destruction and loss of the peridental membrane may be made clear and smooth, or it may possess calcic deposits. These deposits may consist of a uniform ring extending around the entire tooth, or circumscribed masses of deposits may be located at different points about the root. As the membrane recedes, the deposits follow after it upon the roots.

Between the border of the calcic deposits and the peridental membrane, is a space, one or two lines in width, where the roots of the tooth are perfectly smooth. This is the pus-line of clear, smooth tooth-structure, and is nearly always situated between the calcic deposits of the peridental membrane, showing that the calcic deposits are not always found in the membrane, as Dr. Peirce claims. The space upon the root of the tooth between the peridental membrane and the neck of the tooth, including the calcic deposits, is bathed in pus. This disease, which first makes it appearance as an inflammation of the gums, is due to irritation from constitutional and local causes.

Constitutional causes are tartar, mercurial salivation, potash iodid and other drugs, syphilis, loss of vitality, locomotor ataxia, paretic dementia, and the menstrual nisus. In neurotic and degenerate classes, as a whole, pyorrhea exists to a greater extent than in the more healthy classes. In any and all of these diseases in which systemic disturbances produce trophic changes, this disease is present.

[6] General Pathology.

LOCAL CAUSES.

As has already been shown, modern dentistry is producing more pyorrhea than any other one cause. Some cases result from infection, from microörganisms, application of the rubber-dam, clamps, wedging the teeth, correcting irregularities, sharp edges of decayed or filled teeth, protruded fillings, spaces between teeth, crown and bridge work, overstimulation in the use of a tooth-pick, artificial teeth, more particularly ill-fitting plates, injuries, tartar, accumulation and decomposition of food and collections around the necks of teeth, tobacco and everything of a foreign nature, as observed in the mouths of idiots, imbeciles, epileptics and all individuals who do not take care of the teeth. The result of irritation from constitutional and local causes is inflammation. The constitutional factors merely produce inflammation of the gum-margins and trophic changes.

Light is thrown upon this subject by a careful study of the anatomy and physiology of the parts involved. We have the roots of a tooth on the one hand, and the bony structure of the alveolar process on the other, and between the two resisting walls we have the peridental membrane, composed of fibrous elastic connective tissue, which gives nourishment to both the tooth and the alveolar process. The alveolar process is a transient, bony structure simply for the purpose of holding the teeth in place after they have been erupted. The gum or mucous membrane which covers the alveolar process, and which is united with the mucous membrane throughout the mouth, connects with the peridental membrane at the margin of the process. That the lymphatic system is richly developed in young people at this locality is demonstrated by the fact that when the temporary and permanent teeth are lost, the alveolar process absorbs. No structure of the body is similarly situated as the peridental membrane. The structure of the tooth not changing its former size, sends very little nourishment into the cementum.

The peridental membrane obtains its blood-supply from the arteries at the apex of each root, just before they enter the foramen, and through the alveolar process but the largest amount passes through the gingival border of the gum.

According to Black[7] (and I have since verified this statement), "these capillaries run longitudinally from either end of the root toward the center, giving off branches which enter the alveolar process, but not the cementum, because of the peculiar locality of the membrane." May not the anatomic position and a physiologic action on this membrane have something to do with the disease?

The changes which take place in structure are excellently described by Richard Thoma.[8] "The occurrence of atheromatous degeneration is not limited to epithelial structures, however. It is also found in connective tissue. The pathological new formations of connective tissue, which so frequently develop in the intima of the large arteries, are especially liable to atheromatous degeneration. In the description of the simple hyaline degenerations, it was mentioned that many general disturbances of nutrition lead to a weakening of the middle coat of the vessel. The vessel wall is stretched by the blood pressure,

[7] American System of Dentistry.

[8] General Pathology, and Pathological Anatomy, p. 398, 1896.

the lumen of the vessel dilates, and connective tissue thickening of the intima takes place, so that the lumen of the vessel becomes again adapted to the blood-strain. Not infrequently this stretching of the middle coat of the vessel becomes very excessive at some parts of the circumference of the vessel, and accordingly the new formation of connective tissue is very considerable. The newly formed connective tissue has now to support the great part of the tension of the walls. For this, however, it is not quite competent. The increasing dilatation of the lumen of the vessel continues to stretch the wall, until at last the nutrition of the newly formed connective tissue is impaired, some portions of it die, and undergo simple hyaline degeneration. In the hyaline portions a finely granular disintegration, with softening and liquefaction, develops under certain circumstances. This softening is atheromatous degeneration. These areas of softening occur, as a rule, in the deeper, oldest connective tissue layers of the intima, nearer the media. They may, however, break into the lumen of the vessel, or sometimes extend to the media. Atheromatous degeneration, like simple hyaline degeneration, is associated with increase in volume and swelling of the degenerating parts, so that the atheromatous foci project somewhat into the lumen of the blood-channel."

Substitute the peridental membrane for the middle coat of the aorta, and this describes the changes which take place in this locality to a more marked degree, owing to the location of the membrane between the bony walls, and contain more connective tissue.

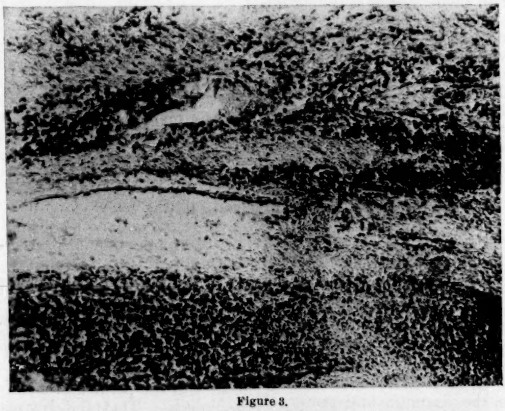


Figure 3.

Figure 4.

The gums are rarely found in a healthy condition They may become inflamed from either constitutional or local causes mentioned above. If the cause is removed early and antiseptic and astringent washes used, together with the stimulating effect of the tooth-brush, the gums will return to a healthy condition. The peridental membrane is never invaded by pus-germs so long as it is in a perfectly normal state. If, on the other hand, inflammation of the gums, due to either constitutional or local causes, persists, it will

extend to the capillaries of the peridental membrane, causing inflammation and stasis of blood in that direction. The peridental membrane has not lost all of its source of nourishment, although the greater part is cut off; its vitality is thus impaired.

When inflammation of the peridental membrane takes place, a proliferation of small round cells produces a new connective tissue. This tissue causes inflammation and thickening of the peridental membrane, which is subject to necrosis, first, from its position between the two bony walls, causing pressure, and second from deficient blood-supply.

Atheromatous patches composed of granular débris, and granular débris and fatty detritus, in which are deposited lime-salts liberated from the tissue-cells and from the blood or lymph, are then formed. These patches soon become infected with pus-germs, or infection of the tissue in the primary stage of the inflammation may take place.

These pus germs, according to Miller, are found in nearly every mouth, but more especially around the necks of teeth. Infection means degeneration and liquefaction, not only of the immediate tissue, but also of the more healthy peridental membrane, but in a less marked degree.

Pus infection producing pockets are formed first by circumscribed inflammation at a particular point of the gum or peridental membrane at the neck of the tooth. The inflammatory process extends into the peridental membrane along a blood vessel or lymph-stream. This may extend part of the entire length of the root of the tooth, the tissue degeneration taking place in precisely the same manner as before, only in a circumscribed way. In phthisical patients and those with low vitality, and patients who have been ill for any length of time, a low form of inflammation of the gums, extending to the peridental membrane, with pus infection, takes place and, degeneration of tissue ensues with or without granular patches and calcic deposits.

The granular débris or calcic deposits in all cases are a secondary consideration in this breaking down of tissue, the inflammatory exudate and pus formation being primary.

Sometimes the degeneration of tissue will extend the entire length of the root. The atheromatous patch of degeneration is always located in that part of tissue farthest from the blood-supply or at the point of least vitality, hence the reason of the breaking down of membrane and deposit upon the root of the tooth.

Believing that the disease is due to local atheromatous degeneration, I have continued my investigations with the aid of Dr. Vida Latham, of the Northwestern University Woman's Medical School. Loose teeth, the result of pyorrhea, were extracted and placed in 50 per cent. alcohol, and given to her for preparation for the microscope. The illustrations here presented are some of many she has prepared, and are magnified 480 diameters. These illustrations, other than the first which is normal, are pathologic conditions of the peridental membrane in different stages of inflammation and degeneration.

Fig. 2. Longitudinal section of cervical portion of the mucous and peridental membrane in connection with a central incisor. Man, 54 years of age. *aa*, epithelium; *b*, coarse fibrous tissue of the gum connecting the mucous and peridental membrane, the lymph-stream passing through from one tissue to the other; the tissues are in a state of chronic inflammation; *c*, deeper connective tissue.

Fig. 3. Cross-section of peridental membrane of the anterior buccal root of a right superior first permanent molar. Man, 59 years of age. The dark lines show round cell inflammation extending along the lymph-channel; the lighter lines less inflamed, membrane center; *a*, blood vessel.

Fig. 4. Cross-section of peridental membrane of left superior lateral incisor. Woman, 32 years of age. This tooth became loose on account of pressure from plate. The white spaces show the fibers of the connective tissue. The dark spaces are round cells of inflammation, extending into the lymph-streams, showing how pus-pockets are produced.

Fig. 5. Cross-section of peridental membrane of left inferior central incisor of a lady 29 years of age, who has been under my care for fourteen years. By treatment I was able to preserve the tooth that length of time, but finally had to remove it. The disease first started by accumulation of tartar between the two incisors. She was in the habit of biting her thread with this tooth. I could not prevent her from occasionally doing so until it became loose.

The black center shows active inflammation extending along the mesial surface, with cross-section of two blood vessels, with violent small-cell inflammation, having for its starting point the perivascular lymph space.

Fig. 6. Cross-section of central incisor with the peridental membrane. *a*, dentine; *b*, cementum; *c*, cementoblast; *d*, peridental membrane highly inflamed; *e* and *f*, blood vessels cut longitudinally.

The following four illustrations show different stages of inflammation and degeneration of the peridental membrane of a right superior first molar. A lady, 40 years of age. She has had pyorrhea for the last twenty years and is now losing teeth very rapidly.

Fig. 7. Cross-section of palatal root near apex, showing connective tissue with active inflammation.

Fig. 8. Cross-section farther down showing further stage of inflammation of peridental membrane, with all sizes and kinds of connective-tissue cells.

Fig. 9. Cross-section still further down on same root, showing further stage of inflammation.

Fig. 10. Cross-section lower down and of lower magnifying power; shows degeneration and liquefaction of tissue. *aa*, two pus-pockets with violent inflammation around them; *bbb*, violent inflammatory areas about to break down; *c*, blood-vessel.

The following cases are here given to show that uric acid and the gouty diathesis are not the cause of pyorrhea.

A woman, 58 years old, has been a patient for sixteen years and has all the symptoms of gouty diathesis. The enlarged joints of her fingers and toes indicate this, together with neuralgic and rheumatic pains in limbs and body. All these years she has come to my office as often as once in every three months, and frequently as often as twice a week to have her mouth kept in order. I removed two loose teeth when she first came to me in 1880, and the remainder are firm in the jaw today. I have been able to keep them in a fairly good condition ever since. I have had the greatest trouble with the inferior and the palatine surface of the superior incisors. I have kept the gums in a fairly healthy condition without calcic deposits, and have neglected the buccal surfaces of the molars. The patient has done the same. This

was her weak point, therefore I encouraged it. The result is that where the gums are kept healthy there is no deposit, and where they had become diseased the deposit was excessive. When the deposits were removed they were examined chemically without uric acid results. This case has already been reported in second paper.

B, man 49 years old, came to me eleven years ago with a very bad case of pyorrhea. The right inferior first molar was loose, and I informed him that I could do nothing with his mouth as long as it remained. He reluctantly had it removed, and in less than two months I had his mouth in a healthy condition. For six months I watched it to see that he followed my instructions, which he did faithfully. He had very powerful muscles, and soon after the time mentioned he neglected to get the brush back by the right upper second and third molars. In a short time inflammation of the gum commenced and deposits took place, while the remainder of the mouth was in a comparatively healthy condition.

C, woman, 22 years old, had her anterior superior teeth regulated owing to a protrusion. This required four months' time. After they had been restored to their proper position they were anchored to the first bicuspids. She was dismissed and after a year had passed I removed the retaining band, and found chronic inflammation of the gum along the palatine surfaces of the incisors and cuspids, with thick calcic deposits when she did not reach them with her tooth brush.

Figure 5.

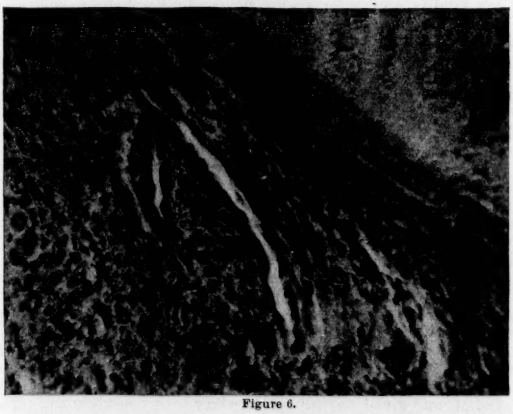


Figure 6.

D, girl, 14 years old, had the upper dental arch expanded, and the anterior teeth rotated and carried back into place. This required two years time. After the appliances were removed calcic deposits were found in connection with all the teeth banded on the upper jaw, while no deposits were observed on the lower. It will be observed that had the gum been kept in a healthy condition no deposit would have occurred.

The glandular structure in the peridental membrane decreases with age. Black says, "in young subjects

glands are found in great profusion lying along the fibers close to the cementum. Their number is so great that I have counted from 100 to 200 of them cut across in the cross-section of the root and alveolus of an incisor tooth of ordinary size." They seem to diminish in numbers as age advances, though this point has not been studied sufficiently. I have examined 120 healthy and diseased peridental membranes, and have succeeded in finding only a few glands. This, no doubt, is due to the fact that all patients examined were over 30 years of age. There can be no question but that the number of glands in the peridental membrane greatly diminishes in numbers as life advances. There are, however, a set of glands located at the gingival margin of the gum, which remain so long as the tissues are in a healthy state. When, however, chronic inflammation takes place, these, to a certain extent, are destroyed. The glands invariably become involved in scurvy, mercurial and iodin salivation, and in many cases of syphilis and other constitutional conditions which affect the gum-margin. In such cases, whether due to constitutional or local causes, acute inflammation occurs which, if not cured, becomes chronic, and extends to the peridental membrane, and the small round cells of inflammation follow the blood and lymph streams, which may affect the membrane as a whole or only in circumscribed masses. When this is the case pus infection takes place and total destruction of the peridental membrane results, or pockets are found. In anemic cases the vitality of the membrane is greatly impaired, and inflammation and atheromatous degeneration occurs.

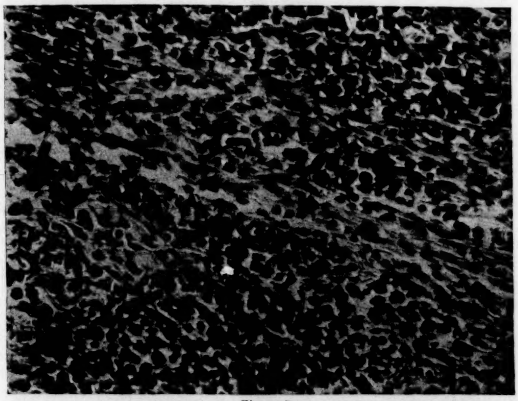


Figure 7.

Figure 8.

I can not understand why Dr. Peirce and his disciples advocate the uric acid and gouty theory when the only evidence in even the 3 or 4 per cent. of cases, the only link in harmony with the two conditions, is the name calcic deposits.

The clinical features of the beginning and progress of the two diseases are wholly unlike; we never see in pyorrhea deposits taking place and accumulating in large quantities within the peridental membrane not exposed to the air. In gouty deposits in the joints,

we never find the primary deposits starting from the external surfaces intermingled with pus. The advocates of the uric-acid theory are quite content to prescribe for their patients suffering with pyorrhea, a glass of hot water three or four times a day, in which a tablet of from 3 to 5 grains of lithia has been dissolved. What effect does that have upon the 95 per cent. of patients who do not have uric acid? What dentist will know when he has one of the 5 per cent. cases to treat, since they all resemble one another. Why use the lithia? It is wholly unnecessary. Chemists same manner. But for the sake of argument let us use lithia water for one of the cases in which we have found uric acid and also crystals by the murexid test. The deposits are located upon the root of the tooth from one-fourth to one-half the extent, with inflammation of the peridental membrane (which is always present) and generally pus. Do the advocates of this theory believe that by removing the calcium salts in the blood it will have any effect upon those lymph and blood streams, which have become invaded by cells of inflammation and infection, far beyond the

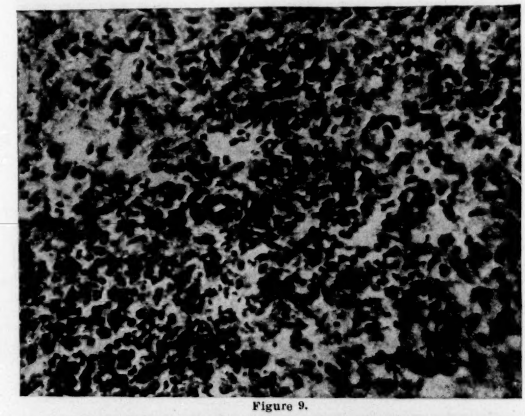


Figure 9.

Figure 10.

will tell us to flood the system of gouty patients with good, pure water, which will carry away all the insoluble substances in the blood.

There are physicians in this country with international reputation who are treating and curing patients of typhoid fever, pneumonia, syphilis, constipation, smallpox, acute Bright's disease, cystitis, and other allied diseases by the simple use of water alone. The blood of a gouty patient can be cleansed by flooding the system with distilled water in precisely the pus line as illustrated in Figs. 3, 4 and 5? It would seem to me to be folly to think of such results.

In this enlightened age random treatment will not do; we must ascertain the cause, and relief is easy when taken in time. Dr. Riggs and hundreds of other dentists are treating the disease locally with perfect success in those cases where the disease is not too far advanced. Admitting that the first symptoms of pyorrhea are simple inflammation of the gums, recognized by their bleeding, after removing all foreign

substances, the use of a medium stiff brush and an astringent mouth-wash stimulates the gums, continue this treatment until they are hard and do not bleed, and keep them so. The longer we wait, and the longer the disease progresses from one stage to another, the more difficult the treatment and the less assurance of success. If chronic inflammation of the gum has extended to the peridental membrane and pus-infection has ensued, scarify or mutilate the gums in removing the deposits so as to remove as much blood as possible, afterward saturate the gum with the officinal tincture of iodin. This treatment should be continued two or three times per week until the gums are hard and tight about the teeth. Care should be taken to remove all foreign matter and accumulation. In cases where calcic deposits have taken place, we must not forget that inflammation of the membrane and pus-infection has preceded it. The deposit being the result, we must therefore be careful not to injure the membrane in removing it. We must not carry the instrument toward the apex of the root, thus wounding the membrane, but very gently carry the instrument beyond the deposits, and draw it away from the raw edge of the membrane. By removing the deposit we must not consider that we have removed the cause. There is beyond this deposit and even beyond the parts of degeneration and liquefaction of the membrane a diseased connective tissue which can not be reached by local treatment, and in such cases we must disinfect the parts with germicides and antiseptics. Constitutional treatment in the form of tonics is here indicated to restore the membrane to a healthy condition. In most cases it is useless to expect to cure a peridental membrane after the tooth has become loose in the socket, and should be extracted. The inflammatory cells have penetrated the lymph and blood-streams throughout the entire length of the root, hence the difficulty in reaching them. The margin of the alveolar process should not be cut away except to reach the edges of the peridental membrane with the drugs. The main points to consider in such cases are to disinfect the space between the root and and alveolar process,including the edges of the peridental membrane, and contract the gum tightly about the the necks of the teeth to prevent the accumulation of foreign matter and pus-infection. I have used the officinal preparation of tincture of iodin with success. I know nothing better. Pyorrhea due to trophic changes, as observed in locomotor ataxia, paretic dementia, spinal injuries, and all defects in neurotics, must be treated constitutionally as the case may require.

MEDICAL MUNICH AND BERLIN.

NOTES FROM MY SKETCH BOOK.

BY L. HARRISON METTLER, A.M., M.D.
CHICAGO, ILL.

Roll together the ancient cities of Athens and Constantinople; sprinkle them with a few mediæval palaces and renaissance churches; populate them with an art-loving, beer-drinking, easy-going race of Bavarians, and you have modern Munich. And the strangest part of it is that all this curious and quaint antiquity has had its growth within the last fifty years. For extravagant extremes, for sudden changes of hot and cold weather, for much art, good and bad, for startling effects in color, for genuine industry and much dilettantism, for abundance of strong beer and for not much else beside, the city of the Little Monk remains unique among European capitals. It is decidedly a modern hybrid, a creation of a monarch's imagination, an attempt to out-Florence Florence and to set the rest of the world agog with open-faced astonishment at its kaleidoscopic splendor and sumptuous gorgeousness. Above all things it lacks originality, and yet its counterpart is nowhere to be found. It is a copy of everything ancient and modern, and while individually the reproductions are exquisite, regarded en masse, they form a queer conglomeration that is at least interesting, if not beautiful. In Munich the eastern idea and the western are inextricably jumbled together. The color, frivolity, airiness, fantasy and flimsicality of the orient are thrust, without the remotest thought of harmony, upon the stateliness, grandeur, dignity and repose of the occident. Is this to be wondered at when it is remembered that a certain King Ludwig, with certain innumerable millions of good thalers, gathered all this architectural frenzy about him in the short space of a half century! Babylon, Rome, Paris, Madrid, Moscow, London and Edinburgh needed years and centuries to acquire their peculiar characteristics, their grace and beauty, their wealth and dignity. One city is as unlike the other as the rose is unlike the lily; but Munich, gay Munich, like Jonah's gourd, sprang up in a night. It hadn't time to develop. It borrowed from all its neighbors and from every age in history. It is a pretty child, bedecked in the flaring bonnet and ridiculous court-train of its grandmother. It is wayward and winsome, laughably attractive, and so we tourists always love our München.

So great is the reputation of Munich in the world of art, that one wonders how students from other lands ever thought of going there to study medicine, or anything else beside art. And yet the city is richly endowed with all kinds of scientific, literary and benevolent institutions. The arrangement and government of these are usually in advance of those of other places. The university is one of the most noted in the German Empire. It is housed in a chaste, stately edifice, forming with the Georgianum and the Erziehungsinstitut a large closed square, through which passes the famous Ludwigstrasse, one of the most artistic streets in the world. The foundation of the university took place in 1472, at Ingolstadt. In 1800 it was removed to Landshut. The two schools of Landshut and Munich were amalgamated in 1826, and in the same year established in the latter city under the name of the Ludwig-Maximilian University. The government and methods of instruction are the same as those of the other German universities. In addition, however, to the usual four faculties, there is a fifth one for political economy. They comprise a staff of about 121 professors and instructors. The medical department has become famous under the care of such men as Liebig, Ludwig, Voit, Pettenkofer, Ziemssen, Kupffer, Grashey, Ranke, Amann, Oestel, Bezold and others. Liebig occupied the chair of chemistry from 1852. In 1859 the jubilee of the school was celebrated with royal pomp and in 1891 it had upon its rolls no less than 3,622 matriculates.

As Munich itself is of such recent development, so are its asylums and hospitals quite modern, both in regard to the structure of their buildings and in regard to their management. Even the prison is a model of its kind. The principal institutions for the care of

the sick are the General Hospital, the St. Elizabeth Hospital, the Maternity, the St. Joseph Hospital and the Insane Asylum. These with a few minor retreats furnish about 1,371 beds, or about 5.04 beds to every 1,000 of the population. The General Hospital, on the right bank of the Isar in the outskirts of the city, is a magnificent specimen of architecture, surrounded by large and well cultivated grounds. It contains about 237 beds and its wards are models of their kind. The Insane Asylum, I found still farther beyond the limits of the city, on the opposite side of the river from the General Hospital. In no one particular has Munich shown its progressiveness more than in its treatment of the feeble-minded. The non-restraint and humane methods were in vogue here long before they were adopted in most of the other asylums. In fact, neither jacket nor stool was ever generally used here for the control of maniacs, and the popularity of the treatment is evidenced in the fact that the asylums were always crowded, though the authorities had from time to time enlarged them and increased their facilities. Though originally built for 280 patients, the main asylum now has room for nearly 700 beds. The present building is a commodious and artistic structure, having been opened in 1859 and extensively reconstructed and enlarged some fifteen years later. Munich is an excellent field for the study of medicine, and in some departments, as for instance obstetrics, it can claim to be second to none. Its distractions are many, however, and it is so overshadowed by its own great reputation as an art center and by the medical renown of its neighbor, Vienna, that comparatively few students from abroad are found walking the wards of its hospitals. With this brief passing notice of the capital of Bavaria, I will hasten on to sketch medical Berlin and its university.

BERLIN.

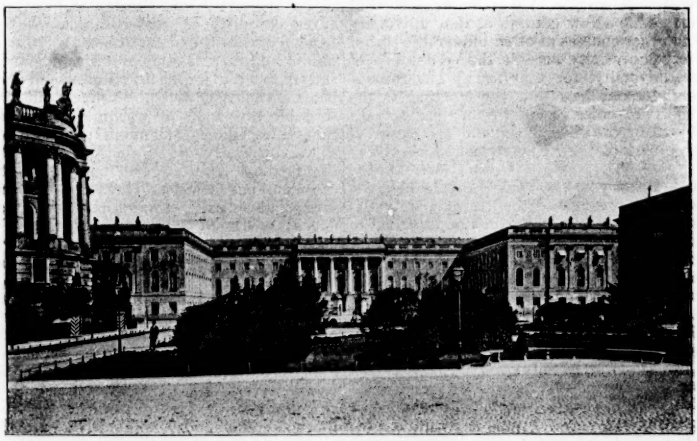
Voltaire used to insist that Berlin was a grand city, and one better laid out than Paris; but Voltaire was a mercurial individual and an adept at shifting in accordance with the direction of the wind. When Frederick was gracious and took his lessons condescendingly and the French atheist in turn listened to the King's poetry and flute tooting, pleasant indeed was it to bask in the royal smiles. Sans Souci was a veritable paradise and Berlin the finest city under the sun. But when recriminations took the place of mutual compliments, when royal mandates began to fly around, when angry edicts appeared instead of bad poems, when rivals arose and captured the monarch's ear, in fact, when Frederick presumed to be the master in place of the caustic Frenchman, things took on a different hue; San Souci was not such a delightful place and Berlin was only a miserable Dutch hamlet somewhere on the banks of the Spree.

Berlin impressed me as a very modern city and its people as tremendously in earnest. It has a few artistic features about it in the way of ornamentation, but its essence is solidity, somberness and invincible power itself. If Munich suggests a child bedecked in the gaudy raiments of an ancestor, Berlin makes one think of a mighty giant clad in the small clothes of a child. The art is there and the architecture is manifest, but the former is overlooked in the presence of so much somber militarism, and the latter fails to attract because of the rigidity of its style and the dullness of its uniform coloration. From Munich to Berlin is like going from Vanity Fair into a fortified castle. It contains a population of over a million and a half in addition to a large military garrison. It is subject to extreme heat in summer and intense cold in winter, largely on account of its situation in the midst of a broad sandy plain. As an evidence of the general flatness of the city and surrounding country, it is curious to note that the famous Friedrichstrasse, more than two miles in length, has not a single descent of a foot from end to end. Most of the buildings are constructed of brick and plastered with stucco. This quickly fades in color and gives the city a worn, heavy, unattractive appearance. The newer tenements are being made taller, which of course darkens the narrow streets. On account of the rapid growth and development of the population, rent and real estate values have increased enormously, and so produced a gloomy side to the picture of life in the German capital. It is almost a fact that as the tenements advance skyward so *pari passu* do the poorer inhabitants descend into the earth. It is calculated than more than one-tenth of the population live in underground cellars, which of course is not conducive to good health and pure morals. Though the city has nearly 100 churches not more than 2 per cent. of its people attend them. The cost of living in Berlin is greater than in many other university towns of Germany, a fact which has had its influence upon the growth of the Berlin University.

As everybody knows the system of university education in Germany is peculiar and differs more widely from that of America than probably from that of any other country. The German university is a government institution, under the control of the crown and supported by the state. The emperor is the nominal head and it is with the approval of his representatives that the appointments are made in the faculties. This insures a uniformity of government and method throughout the various faculties. There are about twenty-one universities scattered throughout the empire and though they vary in popularity one is actually no better than another. Students are not required to pass their whole course before taking their degrees at one university, but may go from year to year to this or that school until the required amount of study has been completed. In this way a poor pupil may go to Rostock in preference to Berlin because living expenses are less in the former place; or another of ample means may attend a certain eminent professor's lectures at Heidelberg one year and another professor's at Göttingen the following year. Oftentimes universities in the smaller towns are preferred by distinguished men when called to a chair in one of the faculties because of the lessened cost of living and the more favorable opportunity for quiet study and research. The four faculties of theology, law, medicine and philosophy constitute a university. There are three sets of instructors, the *ordinary* or regular professors, the *extraordinary* or assistant professors, and the *privat-docenten*. The ordinary professors are usually men who have distinguished themselves by unusual scholarship or some special line of research and who are given full liberty to lecture upon their chosen theme in whatever way they desire. The extraordinary professors are men who have distinguished themselves as privat-docents and are also given considerable license but are expected to follow more or less the teachings of the professors whom they assist. The *Privat-docenten* belong peculiarly to the German system and are not represented in any way by the instructors in either the English or American universities.

They are usually men who have shown special talent or done some original work during their student days. They are intimately associated with the university but look for their remuneration entirely to their fees from the students. They are allowed to teach whatever they like and in any way that they desire. Sometimes it will happen that a privat-docent of considerable eminence will teach conflicting views in the very same department of the professor with whom he is associated. Of course this is liable to lead and has more than once led to bad feeling, but as the professors are usually selected from the ranks of the privat-docents, a wholesome rivalry is thus maintained greatly to the credit of the school and the benefit of the pupils. The communal life of the German university resembles in some respects that of the middle ages. The university is a kind of community separate and apart from the rest of the world. Its life from studentship to professorship, is looked upon as a career in which a man who adopts it expects to pass his entire existence. Its teaching staff is always selected from its own students and we never hear of a German professor who was at one time a tradesman, a clerk or a village schoolmaster. A university career is a profession to be decided upon in early life, to be prepared for in youth and to be persistently and consistently followed ever after. When a student leaves his university and passes out into the every-day life of the practical world, or into Philistia as he calls it, he rarely if ever, returns to his alma mater except as a pilgrim returns to his early home to taste once more the joys of his merry boyhood days. It is this isolation as it were of the university from the outside practical world that makes the student life in Germany so unique and keeps alive in the memory of its pupils their tender fondness for their alma mater.

It is often said that the Germans are great theorizers. This is shown largely in their system of university education. The fundamental idea of the German university is the study of the *theory* of knowledge, the teaching of men how to think. Practical science and practical information must be acquired at the technical schools and the polytechnicums. A *Zweck* is implied in the German idea of a university as an object of study. The object is *Wissenschaft*. Two conditions or *Bedingungen* are also involved, namely, *Lehrfreiheit* and *Lernfreiheit*. *Wissenschaft* means knowledge in the highest sense, it is the search of the truth irrespective of its utilitarian value. By *Lehrfreiheit* is understood the absolute freedom of the professor or privat-docent to teach whatever he chooses in whatever way he prefers. *Lernfreiheit* is the freedom of the student from *Schulzwang* or compulsory drill by recitation. In a word, the *theory* rather than the *practice* of knowledge is the ideal of a German university and in the attainment of that ideal both teacher and student are granted the largest liberty. Of the four departments medicine is the only one in which anything like a practical knowledge, a knowledge capable of being put into actual practice in every-day life, is imparted. The exception is, however, more apparent than real, for medicine is largely a theoretical science and the art of medicine is obviously dependent upon the practitioner's powers of observation as much as upon the mere application of a number of memorized facts.



University of Berlin.

The chief medical schools in Germany associated with universities are those of Berlin, Leipzig, Heidelberg, Göttingen, Greifswald, Erlangen, Bonn, Jena, Rostock and Tübingen. While the size and importance of the towns in which they are situated vary, the teaching is the same in all. Sometimes one or more professors of special eminence, as Virchow in Berlin, Erb in Heidelberg, Thiersch in Leipzig, will cause the school with which they are associated to enjoy unusual popularity. Sometimes the student will wander from one university to another before taking his degree, so as to avail himself of the instruction of the various eminent men. In all of the German medical schools very great attention is given to the laboratories of anatomy, physiology, chemistry and pathology. For clinical teaching all of them have hospitals officially connected with the universities of which they are a part. Certificates from these

special hospitals only are accepted as qualification for the degree. Before matriculating in any one of these schools, the student must present evidence of having passed the *Abiturienten-examen*. This is a severe preliminary test and requires considerable knowledge of Latin, Greek, English and French, and an elementary knowledge of the sciences in general. Two years after beginning his medical studies, the first examination—the *Testamen Philosophicum*—is undergone. This examination is upon the subjects of chemistry, physics, botany and zoölogy. At the end of five years the student comes up for the *Examen Rigorosum*, after which he receives his degree of M.D. Before he can practice, however, he must pass the state examination. The last is purely a practical examination and like all the others is conducted by the professors of the universities. The medical curriculum of the five years includes the usual medical subjects and is comprised in lectures and hospital clinics. In the hospitals a large class usually accompanies the professor, and a discussion of the cases is held after the manner of a consultation. The fees are charged for each separate course of lectures, so that a student may take a few courses at one university one year, and other courses at other universities other years. Every university accepts the credentials of every other university, for they are all government institutions under one head and the teaching is the same in all. The professors of the medical schools are all well paid by the government and are expected to give a large part of their time to the work of the school.

It was but a few years ago that Leipzig held the honor of being the greatest of the German universities. Today, however, that of Berlin stands second to none. The history of this great school is full of interest and when I first saw it, it seemed to me that I could almost read in the severe, dignified appearance of its exterior the singular conditions under which it had its origin. In 1809, when it was decided to establish the university, Berlin was under the domination of Napoleon and French patrols were marching through the streets of the city. So oppressed was Germany at this time that certain of its universities were closed by the conqueror, and to undertake in that troublous period to assemble a band of independent outspoken scientists in a new university was attended with no little risk. But though conquered by arms for the time, the German spirit and the German love of learning remained indomitable. With the assistance of the Minister, Von Stein, and upon the earnest suggestion of Fichte, who had been expelled for his peculiar ideas from Jena, the university was founded and opened in 1810 and some of the most eminent scholars and scientists of the day were invited to occupy its chairs. Schleiermacher, who had lost his position through Napoleon's suppression of the University of Halle, took charge of the department of theology. Savigny, the famous jurist, lectured upon law; Wolff gave Fichte his most valuable support. Wilhelm von Humboldt brought renown as well as strength in those early days of the school. Above all was the scientific and moral support of Hufeland, physician-in-ordinary to the king, whose position gave him an unusual opportunity to bring to the assistance of the school the approval and favor of the crown. From such a splendid beginning the university grew and flourished in spite of the depressing influence of the French occupation of Berlin. The fortunes of war changed ere long and victory led the Prussian banners to the gates of Paris. Under the favor of Emperor William and especially of Prince Bismarck, who felt a peculiar regard for the school, it quickly developed a reputation which surpassed that of its rivals. Being young and full of enthusiasm it worked out a career of success for itself. Being independent it invited men of eminence whose views may have been too radical for some of the older institutions, and gave them the widest liberty for the promulgation of their ideas. It could not fail to have become renowned, independent as it was and fondled in the arms, as it were, of the growing capital of a victorious nation. The Emperor was its guardian, the prime minister its friend and a palace its home. The university building was formerly the residence of Prince Henry, brother of Federick II, and was erected in the years 1754 to 1764. It is a stately edifice, consisting of a central portion with two wings partially surrounding an ample courtyard. Its simple, massive architecture, which, by the way, is illustrative of the general architecture of Berlin, is suggestive of the repose and dignity of learning. Situated at one end of the elegant avenue known as Unter den Linden and in the midst of some of the city's finest public buildings, a student who approaches the university, as I did, for the first time, would be dull, indeed, if his enthusiasm were not kindled and his impatience to enter the halls of learning were not increased. Something like 3,500 students are now in attendance at the university and of these about 350 are taking the medical course. The teaching staff comprises the usual four faculties. There are twelve ordinary professors, seventeen extraordinary and nineteen privat docents. Two of the most noted men of the faculty of late years are Helmholtz and Virchow. I wish I had space to refer more in detail to the lives and characteristics of these eminent scientists. But I can not refrain from indicating the spirit of the university and the splendid independence of science by reminding the reader of Virchow's radical politics, which, though often in conflict with the government, even to the point of provoking a challenge to a duel from Bismarck, nevertheless did not interfere with his position as a professor in the university, the protégé of the throne. The study of the lives of Helmholtz and Virchow is an incentive to struggling ambition. Among the men who have been and are associated with the medical faculty of the Berlin school are Bardeleben, Du Bois Reymond, Gerhardt, Olshausen, Leyden Waldeyer, Bergmann, Schweigger, Jolly, Rose, Koch, Henoch, Munk, Salkowski, Fritsch, Senator, Hirschberg, Ewald, Baginsky, Martin, Fränkel, Remak, von Noorden, Langerhans, Posner and Westphal. What other university can show a more brilliant galaxy of names?

Now just a word in regard to practical medicine in Berlin. When the old Hospital of the Holy Spirit for Lepers was founded (1208) and St. George's for the same class of patients (1258 to 1278), both of which are now united in the Neubau, Berlin was scarcely more than a couple of Wendish fishing hamlets, whither the courts of Brandenburg had led some German colonists. About this time the city first began to figure in history under the name of *Koeln* and *Berlin*. Some time between 1405 and 1408 the St. Gertrude Hospital and Church were erected in the Spittelmarket, for twelve patients of noble birth. St. Jacob's Hospital was opened for cases in 1605,

when the city was threatened with the plague. The Jerusalem Hospital (1671) and the Cathedral Hospital (1753) were more in the nature of almshouses and retreats than actual places for the cure of the sick. Today Berlin is abundantly—perhaps over-abundantly—supplied with hospital accommodation. With its population something like a million and a half, it averages 3.85 hospital beds per 1,000. It can boast of eleven large general hospitals, six special hospitals and about twenty-six private hospitals and no less than fifty private maternities, beside an innumerable number of private clinics and dispensaries. And yet it was only a little over a hundred years ago that Formey, surgeon to the King of Prussia, wrote: "It must be acknowledged that in our public institutions for the sick reform is urgently called for, and that in these respects Frenchmen, Englishmen, Swedes and Danes—in a word, most nations—have far surpassed us. Every foreigner who visits our lazarettos, after seeing those of other lands, leaves them full of painful astonishment at their deficiency." Even as late as 1841 to 1850 and 1851 to 1860 the reports upon the government of the Township of Berlin say absolutely nothing about any hospital belonging to the municipality. At that time the capital possessed only state and private institutions. There are now two fine municipal hospitals, both of which are perfect models of their kind. The experience of the American war hospital system and the adoption of the pavilion and barrack plans instead of the ancient ones, have enabled Berlin to claim the finest hospital system in the world. Not far from the famous Brandenburg Gate at the western terminus of the avenue Unter der Linden stands the chief hospital of the city, the Charity. It was erected by Frederick the First in 1710, when a plague was threatening Berlin. It consisted of four pavilions three stories high, and was constructed after the most approved plans of that day. The plague did not reach Berlin and the building was transformed into a workhouse, and later on into a garrison lazaretto. For these purposes it was totally inadequate and so was made into a hospital in 1725, to be used for the benefit of the poor under the care of the municipality. It continued, however, to be a state institution. By a royal decree a surgical training school was established in connection with it and a a wing added for the use of civilians. This was in 1727. A horticulture, a dairy and a brewery were operated at this time in connection with the hospital. It was supported by the crown, by the state (not the city) and by private gift. It has steadily grown until now its departments number sixteen, under the supervision of twelve superintendents. Most of the departments serve as clinics for the University lectures. In close connection with the Charity, which contains nearly seventeen hundred and fifty beds, is an excellent Midwives' school for Berlin and Potsdam.

The finest hospital in Berlin, the large and elegant Friedrichshain, was opened in 1874. After the Charity, medical visitors will not fail to see this model institution. It represents the ideas of the leading German surgeons, particularly Esmarch and Esse. It consists of a group of isolated buildings, spread over a large area of ground and having no covered ways or corridors of intercommunication. There are twelve ward pavilions and they all extend north and south. Four of these pavilions are for surgical cases and are made only one story in height. Six pavilions are set apart for medical cases and extend to two stories in height. The remaining pavilions are for infectious diseases. Between the surgical apartments are the operating room and general offices. In each ward there are about twenty-eight beds and at the end of the ward is the so-called "dayroom," having a commodious covered balcony attached to it. In connection with every ward are lavatories, closets, bath rooms, small operating room, a couple of small separation wards with one bed in each, a duty room and nurses' room. The ward's offices, receiving rooms, general baths, heating apparatuses, etc., are in the basement. Hot water is used for heating purposes and free ventilation is obtained by gratings just behind each pair of beds. Two open fireplaces are also constructed in each ward. The floors are all made of tiling. The capacity of this fine, modern hospital is about seven hundred beds.

The Urban Hospital, completed in 1890, with its 600 beds (75 beds for children) is another admirable institution. It is unfortunate, however, that its closets and lavatories are not separated from the associated wards by means of corridors or some form of ventilating shaft. It is lighted throughout by electricity and its bath room contains in addition to the ordinary baths, a frigidarium, a sudatorium, a tepidarium, a lavarium and a Russiam steam bath.

Among the other great hospitals of Berlin, more than a passing notice ought to be given to the Moabit, with its 750 odd beds; the St. Hedwig, founded in 1844, having 470 beds; the Bethany, with its 354 beds; the Lazarus, Augusta, Elizabeth, Jews', and the Elizabeth Children's Hospitals, each with less than 200 beds, but nearly all modern and complete in their appointments. A feature in connection with the Bethany is its broad ample balconies attached to each ward and closed in at the ends with glass screens. Ofttimes patients remain day and night continuously in these balconies, and the ventilation and sunlight thns obtained afford most favorable results. In connection with the Augusta as well as the Victoria Home is a fine training school for nurses, and their clinics are especially used by the teachers of the university.

I presume no city in the world has so many *private* hospitals as Berlin. It would almost seem that every assistant, every privat-docent—in fact everybody who pretends to do something more than attend to a private practice—must have his own hospital. Surgery, ophthalmology, obstetrics and the diseases of women and children are all represented among the private hospitals, clinics and dispensaries. I sympathize with the practitioner of Berlin and since my return from that city I have been less surprised at the penchant shown by some of our German confrères when they come to this country to at once open a corner dispensary or announce a private clinic. Berlin is undoubtedly a great center for medical education, but for general practice I fancy it must be a place for the harrowing of one's soul and the utter depletion of one's pocketbook!

In regard to the insane, Berlin took no systematic care of them until about the 18th century. Then they were first confined to the workhouse in the Waisenbrücke, called the Friedrich's Hospital. They were sheltered along with the orphans and aged paupers. When this became overcrowded, they were again removed to another workhouse near the Dorothea Hospital. Later on, the famous Faber Institution was constructed and occupied. The history of this is full

of interest but space forbids my doing more than merely naming it here. Ultimately it was destroyed by fire in 1798. After this date the Charity Hospital received the insane, and even at the present time it takes charge of some of them until room is found for them at the Dalldorf Asylum. As the hospitals of Berlin are models of their kind, so this famous asylum is notable for its modern construction and perfect equipment. Dalldorf is a suburb lying a short distance to the northwest of the capital. The asylum contains 600 beds for curable cases and 600 more for the incurables and the infirm. Both sets of patients are in the same establishment, but under the control of different superintendents and in different buildings.

Having now brought these sketches to a close, I am almost tempted to say a word or two from personal observation in regard to medical education abroad. In many respects the advantages of a medical training in Europe preponderate over those in America. In some things I am convinced America can teach Europe. But comparisons are odious and usually unnecessary; so in conclusion I will merely say that I hope these brief and imperfect sketches may have been of some use in awakening pleasant reminiscences for those who have visited Europe either as tourist or student, and in pointing out some items, not found in any guidebook, to those of my confrères who are still looking forward to the pleasure and profit of a trip abroad.

4544 Lake Avenue.

SOCIETY PROCEEDINGS.

Chicago Academy of Medicine.

Stated Meeting, November 10, 1896.

CASEY A. WOOD, M.D., in the Chair.

DERMATITIS FOLLOWING THE ROENTGEN RAY.

Dr. E. H. LEE—What I wish to say this evening will have reference more to the significance of skiagraphs in the diagnosis of fractures and the condition of the fracture after treatment, than to dermatitis following the X rays. As far as the latter is concerned, I expected to present this evening a patient suffering from severe dermatitis following prolonged exposure to the X rays, but he is so sick that he was unable to be here. The dermatitis which is produced by the X rays has been frequently observed. I have seen but one or two cases of it. Dr. E. E. King of Toronto, in the *Canadian Practitioner* for November, 1896, reports the case of a patient who was submitted to the X rays for demonstration. The patient submitted himself to exposures for two and three hours a day for several months, and later for six hours for several months. It was not until the second or third month that changes in the derma were noticed, and then a dermatitis was produced similar to that which follows heat. The skin became blistered and the hair bulbs were entirely destroyed and all the nails of the hand were lost.

My case was one of bullet wound of the head which was followed by a cerebral abscess. I saw the patient four days after he was shot; the physician with whom I consulted supposed that the bullet would be imbedded in the bony tissue beneath the skin. The patient had no elevation of temperature, the only indication for the exploration of the wound being a slight inflammatory edema around the small opening which the bullet had produced. In operating I found the bullet had penetrated the cranium, and removed several splinters of bone around the entrance of the bullet. There was no pus present. I, however, inserted a gauze drain. The patient did well for ten days, then suddenly developed chills and fever. His temperature arose to 103 degrees, so that it was plainly evident that infection had taken place. The question arose as to the source of the infection. Did it come from without, or was it from the bullet which had penetrated the brain and was lodged in the opposite side of the head? I removed the gauze drainage and a large quantity of pus escaped, after which the temperature disappeared and the patient did nicely for two or three days; on the fourth day he again got a chill with elevation of temperature. I established efficient drainage by removing a large piece of bone and flushing the abscess cavity as much as possible. After two ounces of pus had escaped we had no means of determining the further direction of the abscess. It was after this second operation that he was submitted to the X rays. For over a week he underwent three or four exposures a day, each exposure being from three-quarters of an hour to one hour's duration. The results were not satisfactory. The bullet had entered the right temporal region, the skiagraph showed a large shadow in the posterior occipital region on the left side. On the strength of these skiagraphs I trephined on the other side, but failed to locate the bullet. I exhibit a skiagraph which shows the shape of the head, and here you can see a spot which is supposed to be the bullet. The patient after the second operation did well, and it would have been really unnecessary to have submitted him to the X rays, but it was still my opinion that the bullet was the source of infection, and that recovery would not take place until the foreign body was removed.

The dermatitis developed after the third or fourth exposure, beginning with edema and redness of the skin. After the fifth or sixth exposure the edema was quite marked and the skin red and tender. It was three or four days after the last exposure that dermatitis developed to a marked extent, and then a severe blistering of the skin took place. The eyebrows and eyelashes were destroyed, and the hair over the left side of the face. At the present time the dermatitis is very severe. He has a very large granulating surface over the whole left side of his head, with complete loss of the hair. There is complete destruction of the hair bulbs.

It would be interesting to determine how this dermatitis is produced. No heat is present in the application of the present X rays, but the dermatitis acts very similar to one produced by heat. Then, too, the condition of the patient's eyelids is quite interesting, although the eye itself was not affected. He always had his eye closed during the application of the rays, but at the present time he has an extensive edema of both eyelids of the left side, and a most complete ectropion of both lids. The conjunctiva at this portion (indicating) is a granulating surface. In this case we made every effort to locate the bullet, and it is for this reason that the patient was exposed for such a length of time.

The removal of foreign bodies by means of skiagraphs has opened up a great field of observation in this line. I have in this connection an interesting case, which was that of a policeman who, in pursuing a burglar, shot himself in the heel. The skiagraphs show the bullet imbedded in the upper portion of the os calcis. I located the bullet before removing it by Girdner's bullet probe. By the skiagraph it is seen that the bullet is not located in the joint. This is a point which was of the greatest importance, for the joint was not opened during the operation. It was supposed that we could not remove the bullet without opening the joint, and it would hardly have been avoided had we not had such accurate knowledge of the location.

It is my desire this evening to say a few words on the application of skiagraphs in the treatment of acute fractures. In a recent article which appears in *Medicine* this month, I have reported experiments which consisted in producing Colles' fracture on the cadaver. This fracture we know is a most frequent one and therefore of great importance. It is usually produced by falling on the hand when the arm is in full extension and the hand in dorsal flexion.

In my first experiment the cadaver was laid flat upon a table, the forearm placed at a right angle to the upper arm and vertically to the surface of the table. The hand was now placed in exaggerated dorsal flexion, so that it formed a right angle with the forearm. A large block was placed on the palmar surface of the right hand, and with a heavy piece of wood considerable force was exerted by blows on the block resting on the palmar surface of the hand. The first two blows did not produce the fracture, but the third blow was followed by a snap which could be distinctly heard. Examination revealed a fracture of the radius, apparently about one inch above the joint, giving the typical deformity. The muscular contraction being absent, the deformity was not as pronounced as it would have been in the living subject, and its reduction was very easy. A careful dissection of the elbow joint was now made to determine if a fracture or dislocation had taken place in this region, as the force had been directly transmitted to the elbow joint. No fracture or dislocation was present, the only injury being that of the radius.

In experiment 2, in a similar manner a fracture of the radius of the other arm was produced, this time as a result of the first blow. The section of the elbow again showed that no

fracture or dislocation had been produced in this region. I now amputated both arms at the elbow joint and brought the specimens to Dr. Otto Schmidt, who had the kindness to make skiagraphs of them.

I first placed both arms over the plate, volar surface downward, allowing the deformity (silver-fork position) to remain as pronounced as possible. A comparison of the skiagraphs shows that in both specimens we have:

1. A typical fracture of the radius about one to one and a half inches above the joint.
2. A displacement and overriding at the point of fracture.
3. The ulna is not fractured at any point.
4. There is not a dislocation of the wrist present. A careful inspection of the carpal bones shows that they are in position.

Both arms were then placed over the plate with the dorsal surface downward, a wad of paper being placed above the line of fracture to maintain the deformity. The result is very similar to the former one, showing the fracture of the radius and the displacement of the epiphyseal fragment.

Later the deformities were reduced, and the skiagraphs showed them in perfect position. The line of fracture was with difficulty determined.

In three cases I have produced typical Colles fracture with no other injury associated with it, one and a half inch above the joint, producing a silver-fork deformity and a typical dislocation. The muscular contraction being absent, which would be in the living subject, the deformity was not as well marked as it would have been, and the reduction would have been comparatively easy. Afterward I had a skiagraph of the arm which I amputated, and I showed excellent skiagraphs of typical Colles fracture. The lateral views do not show as well.

The next skiagraph I show you is one of a baby's arm, four days after the injury, in which both ulna and radius were fractured. We can not see the point of fracture, but we notice the parts are in very good position.

The next skiagraph is a fracture of the elbow joint which shows distinctly the line of fracture. The next skiagraph is one of a patella fractured in three places. It is an old fracture. I show you now an old fracture of the femur. You will notice the callous formation and the faulty position of the bone.

I wish now to speak of a case that I am at present treating. It is an old man, 72 years old, who was injured about five weeks ago. After treating him for two weeks I had a skiagraph taken of the leg. At the time of the injury he was anesthetized, but acted poorly under the anesthetic, consequently we only partially succeeded in anesthetizing him. The skiagraph shows a subluxation of the knee with complete laceration of the patellar ligament and a comminuted fracture just above the knee joint, although at the time we could not determine that it was comminuted. It is now five weeks since the fracture occurred. There is no attempt at union whatever. For what reason? The reason is very easily explained by this skiagraph, which was taken two weeks after the accident. It shows that we have here a displacement of the lower portion of the femur down into the muscular tissue, and that we undoubtedly have between the upper portion of the femur and the lower portion either connective tissue or unaltered muscular tissue. I feel that the lower portion of the femur has embedded itself in muscular tissue, and that reduction apparently had taken place, because we had the leg in full extension and apparently in perfect condition; but the skiagraph shows that we have considerable displacement yet.

Here we have another fracture which goes upward, and a third small fracture, showing that we have a severe comminuted fracture in the lower third of the femur. After seeing the condition which is present in this case, at the end of two weeks we would have been justified in operating and wiring the fragments in a younger subject. As it is, this patient is so old and feeble that I have hesitated as yet to resort to operative interference. I have the patient at present walking around in an ambulatory splint.

I think the use of skiagraphs will undoubtedly be of importance in the treatment of fractures. We will be enabled by them to make an accurate diagnosis in the beginning. We will be able to see exactly the nature of the fracture and of the condition present, particularly if there are any associated dislocations or displacements. Furthermore, after we have subjected the fracture to the X rays we are able to see if our reduction is perfect, and later, say after a week or ten days or two weeks, or as often as necessary, we can take further skiagraphs and see that our fracture is retained in perfect position.

Dr. Wm. L. Baum—If the patient of Dr. Lee should die, it would be interesting to have an autopsy made with especial reference to the condition of the skin and of all those nerves which supply this region. I have frequently noticed that firemen who are exposed to a high degree of heat in the boiler rooms of steamboats, and then afterward exposed to the sun's rays become sunburnt. It is not alone the high degree of heat which is responsible for the dermatitis that we see, but there must be something else in the light rays of various kinds; that is, there must be a chemical condition present to account largely for the dermatitis. The question arises, when a patient has been exposed to the action of the X ray for a long time and there is no pain experienced, what is the action upon the nerve itself? There certainly can not be any effect upon the sensory nerve filaments; it must be entirely a motor disturbance, whatever that may be. The dermatitis is frequently merely a secondary condition to something else preëxisting in the skin. The destruction of the hair follicles I would like to see demonstrated in the skin itself. It would be interesting if a small portion of the skin of Dr. Lee's patient were excised and carefully examined. There is an excellent description of what we know of dermatitis as given by Heitzmann in the *Archives of Dermatology* in 1890 or 1891. There are other forms of dermatitis, which are due to the action of heat and direct burns, and are markedly different, pathologically speaking from those which we find here described.

As far as the application of skiagraphs is concerned and as to patients having immunity from the action of the X rays, it is easily explained on the assumption that some patients have a predisposition to dermatitis, and the long continued use of the rays would naturally result in some alteration of the skin.

Dr. James G. Kiernan asked Dr. Baum whether he had seen any cases of dermatitis following the use of the electric current, to which Dr. Baum replied he had not. Dr. K. had found one or two isolated cases in the literature away back in 1883 or 1885.

Dr. Ludvig Hektoen—Inasmuch as all explanations concerning dermatitis following the X ray at the present time must be theoretical, it may not be out of place to suggest still another pathogenesis, namely, that the X ray might in some obscure manner so lower the resistance, to use a broad term, of the tissues of the skin that the pathogenic microörganisms constantly present in the skin might be permitted to induce the long continued inflammation characteristic of these cases.

Dr. Casey A. Wood—So far as the diagnostic value of the X rays in ocular diagnosis is concerned, the subject may be dismissed in a few words. When the Roentgen rays were first suggested as a means of diagnosis, it was thought by many ophthalmologists that they might be of great use in determining the exact position of foreign bodies within the eye. As far as my recollection goes these experiments were first made in France, and in most instances the patient was suffering from penetrating wound of the globe. But it was found that, inasmuch as the eyeball is surrounded by a bony casing, and thus furnished an obstacle not to be overcome by the penetration of the rays, the experiments proved to be of very little value. Here in the laboratory of Drs. Harnisch and Schmidt, quite a large number of similar experiments were also made, some of them coincidentally with those of the French laboratories. The results were practically the same; the X ray was found to be of little or no value. At my request a paper was written by Dr. Harnisch embodying these experiments and published in the *Annals of Ophthalmology*, in which it was further acknowledged that after a good many trials the X ray was impotent, so far as the localization of foreign bodies within the eye is concerned. In my reading of these experiments I do not recall any case of acute inflammation of the eye, either of the external membrane or of the interior of the eye, set up by the use of the Roentgen ray. I have just asked Dr. Lee as to the sequence of the acute purulent conjunctivitis set up in his case. It followed a general dermatitis of the scalp and ocular region. That being the case, I think the acute conjunctival disease has in all probability resulted from secondary infection of the conjunctiva itself. I should judge it as an infection by continuity from the skin. There is, on the other hand, no essential difference so far as the effect of the rays is concerned, between the conjunctiva and the skin itself. If a dermatitis can be produced by the action of the rays, I see no reason why it might not also induce an inflammation of the conjunctiva directly exposed to them.

I much regret that we can not make use of the Roentgen ray apparatus in cases where a piece of metal or other body has penetrated the eyeball. In those instances where the ocular media are or have become cloudy, we are, at present, at a loss when we try to localize the missile, and yet the fate of the eye largely depends upon the situation of the foreign substance—whether it has lodged within the eye, or has passed directly through the eyeball and has lodged in the orbit behind. I hope, later on, when this apparatus has been further perfected, that we shall be able to make use of the Roentgen ray for purposes of this sort.

(To be continued.)

PRACTICAL NOTES.

Fistulas Cured by Painting with Cocain.—A salivary fistula cured by painting with cocain is reported in the *Bulletin Méd.* of November 25, and the issue of December 2 describes a similar success obtained with it in the case of a fistula of the parotid gland, treated previously with nitrate of silver and chlorid of zinc without effect. The solution of cocain used was 5 to 50 grams each of water and glycerin. The skin alone was painted, over quite a large surface, twice a week. No result was perceptible at first, but by the end of the second week the improvement was evident and the cure progressed to completion.

New Method of Staining Bacteria.—Pick and Jacobsohn describe a new stain which they state is much more effective than those usually employed. The bacteria show deep blue, the cell nuclei light blue, the protoplasm, mucus and necrosed cell elements bright fuchsin color and the body of the epithelial cells a brilliant red. The contrasts are usually marked and the bacteria, especially the gonococcus, show up finely, the intracellular as well as the intranuclear microörganisms. The pus is first spread on the cover glass and dried, then passed three times through a flame. It is then placed eight to ten seconds in a solution of aq. dest. 20, carbol-fuchsin, gtt. 15; conc. alcohol solution of methylene blue, gtt. 8; then rinsed off in water and dried. Canada balsam for cover glass preparations.—*Cbl. f. Chir.*, December 12.

Partial Resection of the Lower Jaw and Natural Prothesis.—Bardenheuer recently extirpated a carcinoma on a 73 year old patient which required the removal of a triangular piece of the inferior maxillary bone at the angle of the body and ramus, leaving a space 3.5 cm. in width below and about 1 cm. on top. To hold the parts of the jaw left in place, he cut out a length wise portion of the adjoining body, parallel with and including the lower edge, extending forward of and just below the mental foramen. The muscles, etc., were not detached and by stretching them the cut-out piece was slipped along into the vacant space, where it was fastened with one wire stitch at each end. As the piece slipped along was still growing, the wound rapidly healed and the jaw retained its original shape. The mucous membrane inside the mouth was not disturbed in the operation, which is illustrated and described in full in the *Cbl. f. Chir.* of December 12. No external appliances were required.

Effect of Intravenous Injections on the Renal Excretion.—Various tests with rabbits enable Roger to state that intravenous injections of saline solution following injections of toxins, cause the toxins to be eliminated one hour sooner than in the control animals. Two c. cm. of potassium ferrocyanid were given to a rabbit and the toxin was found in the urine in thirteen minutes, while the same amount given to another rabbit and followed by an intravenous injection, showed its presence in the urine in six minutes. The entire elimination of the toxin was accomplished in three hours and a half in the animals that had received the intravenous injections, while it required four hours and a half in the control animals. Tests with sodium sulpho-indigotate produced similar results; the renal mucosa showed the blue stain for seven hours after the intravenous injections, while it persisted very much longer in the control animals.—*Bulletin Médical*, December 2.

Comparison of Thyroid and Iodin Medication.—A French army surgeon has been studying the comparative effects of thyroid and iodin medication in the treatment of goitre in sixty cases that have come under his observation in the last few years. The average duration of treatment was twenty-one days; seven to forty-five the extremes. He states that he found the thyroid the best treatment in recent cases of acute goitre, simple hyperplasia of the gland. In chronic indurated goitre no benefit is derived from iodin and not much more from the thyroid. He notes the coincidence of rheumatism with the goitre; he found personal or hereditary rheumatic antecedents in nearly every case. The fresh gland was more effective than the tablets, and the accidents from its use not so frequent. In some cases persons having taken only one gram in a tablet showed evidences of intoxication, while others could take twenty grams of the fresh gland without inconvenience. The accidents were weakness, cephalagia, vertigo and nausea; the severer cases had profuse sweats, with elevation of temperature to 39 and 40 degrees C., palpitations, tendency to syncope, cramps and muscular contractions.—*Bulletin Médical*, December 2.

Treatment of Alopecia Areata.—Dr. Brocq recommends the following prescriptions: Resorcin, 1½ grains (.09); hydrochlorate of quinin, 3 grains (.18); and pure vaselin, 1 ounce (32). This is to be applied to that part of the scalp from which hair is falling, but only a limited area is to be covered at one application. If the hair still falls off, from 15 to 20 minims of tincture of cantharides may be added, or in other cases sulphur may be introduced into the ointment as: Resorcin, 3 grains (.18); hydrochlorate of quinin, 5 grains (.30); precipitated sulphur, 30 grains (1.80); and pure vaselin, 1 ounce (32). If these ointments produce too much irritation of the scalp, after their removal a simple ointment consisting of 20 grains (1.20) of borax to 100 (6) of vaselin may be used. If the loss of hair be associated with seborrheic eczema it is often well to apply a mercurial ointment.—London *Lancet*, August 22.

Melancholia Treated by Subcutaneous Injections of Ether.—Dr. R. J. Shepherd of Pau, France, writes to the London *Lancet* as follows: "Some remarks by Professor Renault of Lyons on the protective action of the subcutaneous injection of ether in uremia led me to try its effects in a case of brain trouble from uric acid. Twice before a similar attack had been accompanied and followed by deep melancholia. I did not, indeed, think of the melancholia in giving the drug (10 minims injected deep into the buttock) but was surprised and pleased to find that it at once disappeared. I gave about six injections in as many weeks and always with the same effect; it did not need to be repeated for the time. I feel sure that the method deserves a systematic trial, and need hardly say that if it should turn out to be a discovery it will prove an enormous benefit to suffering humanity, more especially in commencing stages of melancholia, which so often leads to suicide; while superintendents of insane asylums may hope to increase their percentage of cures. We need not be surprised that such a remedy should produce such a result, seeing that melancholia seems to be, *per se*, purely a functional condition of the nerve cells, coming and going no one knows how and leaving no appreciable trace of its presence. The utter harmlessness of the drug in such doses is largely in its favor."

Inoculation for Cholera.—Some interesting information regarding the effects of inoculation for cholera is to be found, according to the *Pioneer Mail*, in the report on the railway reconnaissance from Assam to Burmah via the Hukong Valley. Mr. Way, the engineer-in-chief, had to engage coolie transport, and 357 Khasias were collected at Margherita. Cholera was raging in the neighborhood at the time, and, in spite of all precautions, the coolies were attacked. Fortunately, Surgeon-Captain Hare was at Dibrugarh, engaged in the special duty of inoculating laborers on the tea gardens, a work which had been begun by Dr. Haffkine some time before. He willingly agreed to deal with the Khasias, and the majority of them submitted to inoculation. The effect was very marked; the deaths among the inoculated were only 2.55 per cent., while among the uninoculated they came to nearly 19 per cent. The disease made such ravages among the latter that the coolies themselves became thoroughly convinced of the efficacy of

inoculation, and finally all agreed to undergo the treatment. From that time onward no fresh cases of cholera occurred. Here, then, we have the strongest evidence of the good done by Dr. Haffkine's treatment, and Dr. Hare's report should be widely studied by the medical profession. The coolies were, it is stated, all living in the same camp and under like conditions, so that the experiment was really a most practical one. We need give only one illustration to prove this. Dr. Hare states that the fifty-two men first dealt with formed a separate group messing together in the same sheds. Of these, thirty were inoculated and sixteen left; of the sixteen uninoculated eleven developed cholera and died; among the thirty-six there was only one case, but this terminatad fatally. There seems to be no room for doubt that if all the coolies had been inoculated at the outset the disease would have ceased in a few days.—*British Medical Journal*, December 5.

Permanganate of Potassium as an Antidote to Morphia.—Permanganate of potassium was first recommended by Barker Smith in 1877 as an antidote to morphia, experiments having shown that when taken after a large dose of either morphia or opium it may entirely neutralize the effect of these drugs, and it is also an efficient antidote against any vegetable poisons. Numerous cases have been reported in which morphia poisoning in children had been successfuly treated by internal or hypodermic administration of permanganate of potassium. In a recent number of the *Klinische Wochenschrift* Dr. Vucetic has published the case of a child aged 3 years who accidentally had taken about thirty drops of tincture of opium, and showed typical symptoms, viz., somnolence, cyanosis, contracted pupil and slow pulse. A 1 per cent solution of permanganate of potassium was prescribed, and in the first place was injected with a Pravaz syringe into the right hypochondrium, in addition to which the child was given some teaspoonfuls of the solution. After some hours the toxic symptoms disappeared and the child eventually recovered, although it remained anemic and showed some mental impairment. If it be considered that children up to the 5th year of age are extremely susceptible to morphia and opium, that those under four months sometimes show signs of poisoning after from two to four drops of laudanum, and that the legitimate dose of laudanum for children of from 2 to 4 years of age amounts to three and a half drops a day, it is clear that in the above case the recovery was due to the permanganate of potassium. The way in which the permanganate acts has not yet been cleared up, but experiments have shown that in a mixture of solutions of morphia and of permanganate of potassium the characteristic reactions of morphia are not obtainable. Only one case of poisoning with permanganate of potassium has been described; in this case, after a dose of about four ounces death occurred from paralysis of the heart. In these cases Dr. Vucetic proposed morphia as an antidote. In morphia poisoning permanganate of potassium may be administered first hypodermically and then internally.—London *Lancet*, October 31.

Peritoneal Tuberculosis.—Naumann of Helsingborg reports twenty cases of peritoneal tuberculosis in the *Nordiskt Med. Arkiv*, No. 5. All but one were operated, as he considers surgical intervention the most effectual means of cure, and the sole contra indication is the presence of advanced tuberculous lesions elsewhere. The difficulty is to form a correct diagnosis, and in several cases his only ground for the assumption of the tuberculosis was the exudation in the abdominal cavity. He states that the parietal peritoneum is frequently thickened, as much as 2 cm. in some cases, and that what is known as "nodular peritonitis" is in fact an old cured tuberculous peritonitis. According to Pic the proportion of recoveries with medical treatment is 34 per cent. in children and 18 per cent. in adults. But 70 per cent. recover completely after laparotomy. In two cases of congenital hernia, Naumann withdrew the effusion through the hernial opening. The laparotomy seems to favor a cure as the traumatism from it draws the blood to the spot, and the bacilli are destroyed by its bactericidal action in such large quantities. This factor in the cure of local tuberculosis has not been emphasized until recently. The afflux of sanguine serum imparts the first impulse toward cure. Then comes the inflammatory reaction with the migration of the white corpuscles and a new formation of tissue, with the absorption of the cells of which the tubercles are composed. In this inflammation the antitoxins generated as also the phagocytosis, are the chief factors in the destruction of the bacilli. He reviews the important experimental researches of Nanotti and Baciocchi and Osler and Jordan's observation of the transformation of the tubercles into lamellar tissue five months after laparotomy, concluding that the results of the latest investigations of the progress and processes of cure after laparotomy, all tend to increase our confidence in this most rational method of treating peritoneal tuberculosis. At the recent Congress at Rome, 253 cases of tuberculous peritonitis operated by the members were reported, with 85.4 per cent. of recoveries. Of the thirty-seven fatal terminations seven occurred at the time of the operation, eight from immediate complications, and the remaining twenty-two only after considerable time had elapsed. Several of the cures have continued three to six years. Margarucci emphasized the necessity of simplifying the operation as much as possible, avoiding extensive irrigation and only draining or tamponing when there are intestinal tumors requiring local treatment. Ruggi diagnoses all cases according as fever is present or absent. In the latter cases surgical intervention is always successful, but when there is fever, the prognosis is less favorable. Seganti has been very successful with the "apneumatic lavage," which he performs with a couple of trocars introduced into the hypochondriac regions.—*Cbl. f. Chir.*, December 5.

Attenuated Test Cultures as a Safeguard Against Pseudo-reactions in Serum Diagnosis of Typhoid Fever by the Dried Blood Process.—Dr. Wyatt Johnston of Montreal has issued a circular, dated January 7, regarding the progress of his work in the new diagnosis of typhoid fever: "In my work in serum diagnosis done jointly with Dr. D. D. MacTaggart, we recently met with a series of peculiar partial reactions in which the dried blood solution from many perfectly healthy persons gave a very decided agglutination. The blood serum from the same persons was found much less liable to give these pseudo-reactions. This made it less easy to exclude other febrile diseases, and as with this test, accuracy in the negative diagnosis is of great practical importance; others who may meet with similar pseudo-reactions will be interested in learning how they may be avoided. These pseudo-reactions were not encountered in our earlier cases when attenuated cultures were used. They began to appear when we employed a short time virulent cultures and disappeared again on resuming the use of attenuated ones. Active, virulent cultures, intensified by daily transplantation and growth at the body temperature were therefore not suitable for the dried blood test. Where only active cultures are employed, we do not think that the dried blood method can be considered to have had a fair trial. The explanation of this difference appears to be that the serum contains relatively less of the substances causing agglutination than solution of the entire blood. Hence solutions of the entire blood react more intensely to the test than solutions of the blood serum alone. This was the reverse of what we had anticipated. It is found that the old laboratory stock cultures kept at room temperature and transplanted at intervals of about one month, give us the best result. Bouillon test cultures grown from this stock for twelve to twenty-four hours at body temperature are found to react decisively with solutions of typhoid blood

or typhoid serum, the reaction being as a rule well marked within fifteen minutes. With non-typhoid blood or serum solutions, the same test cultures give no reaction even after twenty-four or forty-eight hours contact. Intraperitoneal injection of 1 c.c. of such living bouillon culture produces in guinea pigs a marked blood reaction and immunity without much disturbance of health. We find that the best results in cases of dried blood are obtained with cultures where the motion as seen under the microscope is of a rapid gliding character, but free from darting movements. If the movement is sluggish, owing to great attenuation of the culture, a few daily transplantations at body temperature will make it more active. Exact estimation of the degree of dilution has not been found necessary for ordinary diagnostic work when attenuated cultures are used. A very faint tint in the drop examined usually indicates sufficient strength. The solution should not be thick and viscid. All the results which I have reported (New York *Medical Journal*, Oct. 31, 1896, and *British Medical Journal*, Dec. 5, 1896) were obtained with attenuated cultures. A report giving some additional technical details has been prepared and can be sent to any who desire further information."

The Ultimate Results of Removal of the Adnexa.—Prof. Richelot of Paris has performed 300 vaginal hysterectomies and 300 laparotomies for lesions of the adnexa. His interne analyzes these operations in an able article in the *Bulletin Médical* of December 9, and reports the after-results in 257 cases which he was able to follow to date. He finds that absolute cure is the rule; 94 per cent. after vaginal hysterectomy and 64.5 per cent. after larapotomy. The patients have resumed their work or their social life as in the past, and almost all state that their health never was better. The exceptions to this rule are the women of a nervo-arthritic tendency, who complain still of pains and discomforts, and although their general and local health is now perfect, still they are not satisfied. This point Richelot considers an important indication in deciding to operate. Patients with this tendency will never be completely cured in their own opinion, and hysterectomy only adds to their troubles the inconveniences of sterility and the annoyances of the menopause. He styles them the "*noli me tangeres*" of gynecology and advises against operating for comparatively slight lesions, even although the patients may complain of great functional distress from them. (See Jonas' vigorous article in the JOURNAL, page 10). Leaving one or both of the ovaries does not seem to modify the congestive and nervous troubles produced by the artificial menopause, but they are favorably influenced by rational hydrotherapy and the ingestion of ovarian tissue (Jayle's ovarin, made by dessicating the ovaries at the temperature of the animal's body, one powder, 125 milligrams, fifteen minutes before eating. To be continued several months). Two singers operated upon assert that their voice has grown lower. Obesity has appeared in some, but this is ascribed to a predisposition, which would have manifested itself sooner or later, probably, and is merely hastened by the artificial menopause. Glycosuria was similarly noted in two cases. Richelot's mortality is 5 per cent. At one time recently, he had an unbroken series of 130 successful cases. He is very careful to protect the peritoneum from irruption of pus, and when it is hazardous to attempt to decorticate the appendages, he merely opens and drains the pockets. Many surgeons pay no attention to the slight oozing of blood that persists sometimes after vaginal hysterectomy, and yet it may lead to postoperative hemorrhage or the formation of a few clots which may favor the infection of the pelvic peritoneum, and thus the continuance of the pains. Richelot never proceeds to the dressing of the wound until the vagina is absolutely dry, and if the oozing persists, no matter how slight it may be, he always seeks the cause and remedies it. He also always accomplishes the hemostasis of the posterior vaginal cut surface, by bringing the edges of the serosa and the mucosa together and holding them with three or four hemostatic forceps. He is very particular about his dressings, which are tampons of absorbent cotton, the size of a nut, impregnated with iodoform and each with a string attached. One is placed at the level of the vaginal incision, without pushing it into the pelvis. Others are placed around the lateral forceps, and in contact with the vaginal walls. The forceps are removed at the end of forty-eight hours, but the tampons are left in place eight days. Injections of boiled water are made with extreme care and gentleness after the eighth or ninth day. If hemorrhage occurs when the forceps are being removed, the patient is placed in the dorso sacral position and after disinfecting his hands the surgeon removes the tampons and places a couple of valves; finds the bleeding point; applies a pair of forceps to it, and then dresses the wound again as at first. The failures after larapotomy are due in almost every case to the fact that the uterus was left in place after the appendages were removed. Fifty-three have had to undergo a consecutive vaginal hysterectomy for the removal of the uterus, and several of the recent cases will probably require it also. Pains continue and the uterus is often hypertrophied with a large and fungous cervix, or again small and sclerotic, leucorrheic and painful. Metrorrhagia is frequent, usually irregular, but sometimes accompanying the menses. After laparotomy the external surface of the uterus is often infected and raw, ready to contract adherences with neighboring organs or the omentum. The remains of the tubes are difficult to disinfect entirely and the ligature of the pedicle is not always successful in obliterating entirely their mucous surface. From this cause inflammatory accidents may supervene, or fistulas may be produced, directly or by inoculation of the ligature of the pedicle. The uterus is liable to be infected or become infected secondarily, causing metritis or perimetritis. The fistulas are one of the great inconveniences after laparotomy. No fistulas were found in any of Richelot's cases that proceeded from the stitches of the sutures, as his septic precautions prevent their occurrence. Deep fistulas are avoided, the article states, if the ovarian pedicle is tied separately at the level of its vessels, and the stump of the tube is profoundly excised into the very wall of the uterus. A small suture of the serosa of the uterus will then isolate the uterine from the abdominal cavity. The danger of eventration will always render vaginal hysterectomy superior to laparotomy, everything else being equal, as the inconveniences from this are so severe and necessitate a second operation with possibility of relapses. Its sole cause is suppuration, and this does not seem to depend upon the kind of thread nor the method of suturing. Extreme care in asepsis and drainage by a posterior vaginal incision instead of a subpubic, are the only means to prevent it. The troubles after vaginal hysterectomy have only been those connected with the menopause, in most cases. A few womon still have leucorrhea, but it proceeds from the vagina, and in some cases there has been previous gonorrheal infection. There has been a very slight cystocele in three cases. In some cases the wound remained sensitive for a few months—all nervous cases. Ten cases out of 300 were followed by fistulas that lasted from a few weeks to eighteen months, and healed spontaneously. There were five cases of vesical fistulas. One recovered spontaneously and three were treated surgically. Richelot has injured the ureter once in the course of 600 vaginal hysterectomies. The ultimate results are the same in these cases in which the appendages were left after the removal of the uterus. They have become atrophied, absorbed, "volatilized." No pain, no fistulas, but the same phenomena of the premature menopause. The article concludes by stating that all the ultimate results seem to affirm the superiority of the vaginal route, as the chief troubles are due to the retention of the uterus, and if this is to be removed, the vaginal route is to be preferred, as it is less of a shock to the patient; there is less danger of contaminating the peritoneum; there is no danger of the annoying eventrations, and above all because it allows the appendages to be left in place if they are adherent, and there would be danger in detaching them. In the cases in which the abdominal route is especially indicated, the operation should include the removal of the uterus.

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SATURDAY, JANUARY 16, 1897.

THE REVIEWING OF MEDICAL PUBLICATIONS.

The mode of criticism in the medical journals of today is unsatisfactory. In many repects it is unprofessional and unjust to both author and reader. There are not so many meritable medical publications that each can not be thoroughly, but concisely, and intelligently and dispassionately reviewed. A glance at the current review columns shows that this is not the present status of affairs.

Many good books are inadequately noticed and many inferior works are given undue prominence by reasons of personal influence or publisher's advertisement. Much available space is wasted by the reviewers in the exposition of personal knowledge and judgment. MATTHEW ARNOLD says that to be of real service to his readers a critic should be entirely disinterested and should shun eccentricity of taste and violence of speech. There should be no misstatements or misconstruction of the author's object. A compend should not be viewed as a text-book, nor a practice as an encyclopedia. Every author declares the exact object and particular sphere of his book, either on his title-page or in his preface. It is the reviewer's duty to reiterate this, and then to briefly and honestly tell whether and why the volume in question does or does not adequately fulfill its mission. In addition to this a candid personal judgment on the innovations or leading features of the work is always desirable; but this does not mean that severe terms of condemnation are necessary. There should be no phraseology calculated to ridicule a serious and honest man, thereby injuring the sale of his book and preventing full dissemination of medical thought. It should be remembered that some of the most important medical truths were at first rejected by the most learned critics. It is a flagrant abuse of power and a manifestly unfair procedure to attempt to influence a reader against purchasing a work because it is personally distasteful to the reviewer.

The persistent notice of minor discrepancies and typographical errors is entirely unnecessary. Broad criticism has little regard for detail. This is the business of a proofreader. Authors can be benefited and readers satisfied to a far greater extent in the limited space for review in many other ways. Such criticism is usually prompted by a desire to convey the impression of great personal erudition, or is born of an omnipresent desire to be "smart," and to be maliciously on the alert for errors. Criticism does not imply fault-finding. Some of the most valuable medical works are full of small mistakes. Erudite men are most prone to carelessness.

Fortunately medical books are beyond the reach of the general newspaper critics, who to a great extent unfortunately do not attempt a candid and intelligent review, but aim at entertainment and amusement. Medical books are solely works of instruction and reference, and should be viewed as such. They should never be spoken of jocularly or discussed with levity.

The review columns of a journal should be the *sanctum sanctorum* of editorial purity. Of all departments, that of review should be unsullied by personal animosities. Sad to relate, there have been very recent instances in which the review column has been plainly used to satisfy personal dislikes and to pay off old grudges. This is absolutely so narrow minded and suicidal that a feeling of disgust prevents any thought of sympathy or desire to advise the miserable offender. The serious and conscientious critic is as incapable of willfully misrepresenting the merit of the book of a rival or even an enemy, as he is of doing him personal violence or picking his pocket. To the critic who realizes his trust there is no moral difference in the crimes.

At the present time large publishing houses generally have their own medical journals, and unfortunately there is a mercenary tendency to convert their review columns into masked advertisements for their own publications. Particularly is this true of the so-called distribution numbers. This is both unjust and impolitic. By such a policy intelligent and unbiased criticism will eventually be suppressed and the healthful influence and really beneficial advertisement of general honest review lost. When the reader is compelled to read a criticism which has become mere laudation and advertisement, all the value of the criticism is gone. There can be no compromise in this

matter. Readers can not be deceived for any length of time. To be of any value to either party criticism must be absolutely free and liberal.

A difficulty from the editorial standpoint is the necessity of committing volumes consigned to the large journals for review to other hands. Although editorially responsible for the review columns of his journal, for many obvious reasons the editor can not personally inspect the books sent to him. Generally the volume is presented to the reviewer, and when a severely critical or objectionable review is returned the editor is often compelled to expurgate or publish in full the passages in question without being able to consult a duplicate. This is manifestly unfair to both author and reader, and is an injustice to the honest labor of the reviewer. It would be better for all concerned if the publishers would adopt the French custom of sending two copies of the volumes for review to the larger journals; one copy to be used for critical inspection and one for editorial reference.

SUICIDE AND ITS MEANS.

A recent case of attempted suicide in Chicago which has created a great deal of amusement, was that of a German tailor who, while actually engaged in drowning himself, was forced to cease by a policeman who threatened to shoot him. It has been assumed, though wrongly, that this suicide was a sham one. The fact is however, that suicide is often the result of an obsession (imperative conception) which may seize on any mind when the unity of the will is destroyed by conditions of depression resulting from mental stress, or from any of the ordinary somatic diseases, and may pass into an imperative act or not in proportion as the unity of the will is involved.

The obsession may involve simply the question of suicide, or the question of suicide and its method. In the first case the method will be determined by its ease of accomplishment, or by surrounding circumstances. This choice, as MORSELLI ("Suicide") points out, has often considerable regularity. If, as he remarks, there be a human act which seems in apparent relation with free choice, it is the preference given to an instrument for self-destruction; yet statistics do not leave a doubt that in an aggregate of men in whom the physiologic and moral conditions are constantly equal, the nature and number of means of death are always the same, their choice belonging to the general stability of social phenomena.

GUERRY (the first to demonstrate the regularity of this choice out of a considerable number of cases) justly compared it with the annual distribution of births, marriages and crimes. First, should be taken into consideration the fact that the choice always falls by preference on the same means of destruction, so that, amidst such a variety of disposition, they remain limited to the following, principally: drowning, hanging, fire-arms, wounds, poisoning, falls from a height, and asphyxia. Suicide by other means, such as starvation, crushing, bruising, purposely induced diseases and infection, striking the head, through crucifixion, by falling into the fire, setting fire to one's clothes, splitting the skull with dynamite, swallowing hard or pungent bodies, or boiling water or oil, or great quantities of brandy, are exceptional and scarcely ever registered in statistics. Each country certainly has its particular predilections, but in the aggregate of the people by whom suicide is practiced, the rope appears to be chosen before every other instrument, and immediately after that water, fire-arms follow, then those arms which cut or stab; falling from a height is preferred to charcoal and poison and lastly come all the other means. From this, it may be inferred that, in the choice of the means of death, man is generally guided by two motives, the certainty of the event and the absence or shortness of suffering. When suicide is accomplished by very painful means or at the cost of prolonged agony, in ninety cases out of a hundred it is the act of a mind disordered by fanaticism, by insanity or by morbid excitement. The terrible wholesale suicides of the Oriental population suggested always by exaggeration of the religious feeling, are as WAGNER notices, the opposite to those accomplished with indifference, sometimes with coquetry by the cultured European. It is true that the habits and civilization of a people cause the choice of means to vary by exercising a kind of fatal coercion on the individual, so that, for example, in Russia where carrying arms is subject to severe laws and where the cold climate obliges one living within doors for almost the whole year the suicide hangs himself by preference, while in Italy the hurtful facility for possessing arms, perpetual serenity of the sky, and the high temperature give opportunity for the most frequent suicide by means of the pistol or by drowning. Taking into consideration all the means chosen the constant dependence of man on the nature of his surroundings is seen even in the death which he procures for himself by violence.

In Chicago, a suicide dropping into "poetry," left the following couplet:

> "Here's a receipt for a popular suicide,
> Take twenty grains of potassium cyanide."

He was a photographer and sought a painless death. German maidens often soak matches in beer and leave the world with a libation to Gambrinus. "Rough on rats" and strychnin are astonishingly popular, considering the painful death produced by them and the ease with which morphin and laudanum can be procured. Suicides by poison and drowning are most frequent among women, since they disfigure least. Revolutionists, miners and quarrymen often use dynamite. A Chicago lunatic convicted of the murder of a policeman at an anarchist meeting blew his face off with a dynamite cartridge and

thereby insured what in a sane man would have been horrible suffering.

Dr. BRAINERD of Los Angeles, California, points out (JOURNAL AMERICAN MEDICAL ASSOCIATION, Vol. xxi) a peculiarity of suicides which explains their seeming immunity for a long time from the impulse. Most of them have an impulse to accomplish it by some special method and are quite likely not to attempt to take their own lives though numerous opportunities may offer unless the one method to which their minds constantly revert presents itself. The man who has an impulse to hang himself is quite unlikely to cut his throat or poison himself, though he may have ample opportunity to do so. He reports the case of a patient who had made numerous attempts to hang or strangle himself, but was as much frightened as anyone at the prospect of being killed by a tornado. This was singularly well illustrated in the case of the German tailor, and still more so in the case of an Italian paranoiac who, with other less painful means of suicide at hand, determined to crucify himself for the sins of the world. He deliberately set about the manufacture of a cross and all the adjuncts necessary for crucifixion. Perceiving it would be difficult to nail himself firmly to the cross, he made a net which he fastened over it, securing it at the bottom of the upper beam, a little below the bracket he had placed for his feet and at the ends of the two arms. The whole apparatus was tied by two ropes, one from the net and the other from the place where the beams intersected each other. The ropes fastened to the bar above the window, were just long enough to permit the cross to lie horizontally on the floor of the room. These preparations finished he put on his crown of thorns, some of which entered his forehead. Stripping himself naked he girded his loins with a white handkerchief. Then he introduced himself into the net and seating himself on the cross drove a nail into his right palm by striking its head on the floor until the point appeared on the other side. He placed his feet on the bracket and with a mallet drove a nail through them both, entering a hole he had previously made to receive it and thus fastening them to the wood. He then tied himself to the cross by a piece of cord around his waist, after which he wounded himself with his shoemaker's knife in the left side, but failed to injure any important organ. He had made several scratches on his breast to determine the place of least resistance. This knife represented the spear of the crucifixion. This was done in his room. In order to show himself to the people he placed the foot of the cross upon the window sill, which was very low, and by pressing his fingers against the floor, he gradually drew himself forward until the foot of the cross overbalancing the head the whole machine tilted out of the window and hung by two ropes fastened to the beam. He then nailed his right hand to the arm of the cross but could not succeed in fixing the left although the nail by which it was to be fixed was driven through until half of it came out on the other side. After hanging thus an hour he was noticed, detached from the cross and put to bed. He recovered from the wound but remained morose, taciturn and solitary.

The same fact is shown in imitative suicide. Here the imitator follows his predecessor so closely as to adopt identical or very similar means (STRAHAN'S "Suicide and Insanity") of terminating his life. Thus the women of Miletus committed suicide by drowning in large numbers because their husbands and lovers were detained by war. The epidemic was put an end to by carrying the bodies of all suicides naked through the streets. In the seventeenth century an epidemic of suicide by hanging broke out among the women of Lyons, France. There was no known cause for the outbreak. In this case the epidemic was checked by decreeing that the bodies of suicides should be exposed naked in the market place. No suicide had occurred in the Hotel des Invalides for some years, when a man was found one morning hanging from the lintel of a doorway. Within fourteen days thereafter five men suspended themselves from the same beam. The Governor had the passage closed and so soon as the identical method of suicide was rendered impossible the epidemic disappeared as suddenly as it began. Religious suicide in India under the wheels of the car of Juggernaut have been prevented more than once by English soldiers threatening to shoot the fanatics.

THE CRAIG COLONY FOR EPILEPTICS.

The successful results of the efforts of Dr. FREDERICK PETERSON and his associates in the establishment and maintenance of the Craig Colony, New York, should be a stimulus to the development of similar organizations for the rational and economic care and treatment of epileptics in other States. The model settlement at Bielefeld, Germany, has furnished indisputable proof of the benefits of the colony or village system over any hospital or house of refuge for persons afflicted with nervous and mental disorders, and the Craig Colony has further substantiated this fact in this country.

Although only at intervals incapacitated for labor and social intercourse, the epileptic is unfortunately debarred by his malady from the usual avenues of self-sustenance and mental and moral development. Relegated to charity hospitals and almshouses he becomes an easy prey to all degenerative tendencies, and either drifts into insanity or is soon a hopeless invalid and a life-long dependent on the charity of the community at large. On the other hand, taken from the deleterious confinement of an almshouse to the healthful, industrious life in a colony, the epileptic

feels that he is on an equality with his fellows, and no longer a semi-outcast of society. He is bound to his associates by a common affliction, and has a common purpose with them. New hopes and new ambitions arise. From his former apathy he is stimulated to follow his bent in both education and occupation. All the feelings so intimately connected with social dependence disappear. The exercise, the life out of doors, the manual and industrial training, and the mental occupations, bring about the bodily and psychic conditions which conduce to improvement and recovery. Indeed, in the last report on the effect of colony life on the patients at Craig Colony it is stated that nearly every individual of the 145 patients admitted since the informal opening, Feb. 1, 1896, has been markedly improved physically and has gained weight. Their epileptic seizures have diminished in frequency to a noteworthy degree, and in a few instances there has been a complete cessation of attacks for months at a time. One of the most striking changes has been in the expression of the patients. Almost every beneficiary loses his dull, apathetic look, born of idleness and neglect of years, when he enters upon the regular life of the colony, and begins to understand and appreciate the opportunities for occupation, education, treatment and general physical and mental development which it offers. A strong evidence of the appreciation of the colony by the patients is afforded by the fact that, although held here by no legal form of commitment, and having perfect liberty of the premises, they rarely manifest the least desire to leave.

Besides the manifest moral advantages there are the scientific advances that are furthered and fostered by such an institution. Necessarily ordinary treatment must be better under such circumstances. At Craig Colony chemico-physiologic and pathologic laboratories are in the course of construction, and when completed will doubtless open new fields of discovery in the pathology and treatment of psychic and neurotic disorders.

From an economic standpoint the Craig Colony promises to be a success unparalleled among similar charitable organizations. Eliminated from political jurisdiction it bids fair to become self-sustaining. The dietary for patients afflicted with epilepsy is simpler than that needed for other classes of patients, so that almost everything in the way of foodstuffs required by a large population can be produced from the land itself by the labor of the colonists. During the year previous to the opening of the colony, the managers by renting out tracts of land in shares cleared $7,000 or $8,000, which is evidence of the productiveness of the land and of what may be expected when each acre is made to yield its treasures to the unremitting care and attention of the colonists. There is already a large flock of sheep, a goodly herd of cows, and other stock of various kinds under the care of the patients.

But in addition to these features which characterize it to a great degree as an agricultural and stock-raising settlement, numerous other trades and callings will need to be summoned into being with the gradual evolution of a self-supporting and independent colony.

From the date of the opening, Feb. 1, 1896, to Oct. 1, 1896, the colony produced about 50 per cent. of the cost of maintenance. This percentage should increase each year as the agricultural plant is enlarged and the industrial facilities are added to. The importance of encouraging the industrial features of the colony is thus emphasized. It is with this end in view that most of the appropriations asked for from the Legislature of the coming year, aside from those buildings needed to increase capacity, relate to the economic development of the colony.

In this day of extravagant hospital abuse and philanthropic profligacy (in themselves inducive to pauperism and social debauchery) it is delightful to learn of such a deserving and truly charitable organization. Such administrative methods as those of the Craig Colony must be appreciated by the student of social economy as well as the physician. It is hoped that the New York Legislature will have the wisdom and forethought to endow Craig Colony sufficiently to enable Dr. PETERSON and his co-workers to include under their care all the dependent epileptics in the almshouses and hospitals of New York State. After the capacity has thus become enlarged, and the primary object of the colony accomplished, arrangements can be made to receive persons of other communities who are able to pay for the colony life and treatment. Thus the indigent epileptics may be cared for and educated to become useful citizens, and sufferers of this unfortunate affliction of all classes may be ultimately benefited, either directly by actual residence in the colony, or indirectly by the scientific study in the pathology and treatment of epilepsy pursued at the colony.

MEDICAL EDUCATION IN THE UNITED STATES.

The advance sheets of the Annual Report of the Commissioner of Education are always noteworthy. In those now at hand (for the Report of 1894–95), there are to be found some interesting remarks and deductions as regards medical education and requirements for practice in the United States. These latter are graphically represented by different degrees of shading in a map, which gives, as it were, a bird's eye view of the present situation. As last year, there is only one State, New Hampshire, that has absolutely no medical law, but in several of the others the restrictions and conditions have been made more rigid, so that on the whole the safeguards against quackery are increased. The District of Columbia is the latest of

the political divisions of our country to adopt a stringent medical practice act, which was approved only last June, and as it is under the direct control of Congress the enactment is in its way a National one, though the territory in which it is enforced is small. In nine States and Territories, however, there are no medical boards, and the medical practice laws can hardly be said to have much effect.

On the whole the outlook is more promising each year as regards the regulation of medical practice in the interest of the public and the profession. The movement is fairly under way and it will not be many years, in all probability, before efficient medical practice acts will exist in all or nearly all the political divisions of our Union. The question will then arise as to the unification of the standards so as to do away with certain inconveniences that must follow from the existence of so many separate laws varying more or less from each other. This however is a matter that need not trouble us at the present time; the living question, and it is that in more than one sense to the individual practitioner, is that of raising the local or State standard of professional qualifications.

When we turn to the Commissioner's report to see what is being done in other ways to bring this about we find some further encouraging facts. In the Eastern medical centers the increase of medical students is not in proportion to the increase in the total number of students, and while it has increased in Chicago, it would probably be shown, were the figures published, that it is there caused by the multiplication of minor schools whose existence is due to the raising of the requirements of the larger and well established ones. This is clearly enough an evil, serious at the present time, but, it is to be hoped only a temporary one. As State examinations, as a requirement, become more universal the conditions that permit these mushroom growths to exist will be done away with and students will find it necessary to go where the means and appliances for a thorough medical education can be found. This statement applies still more to the many small medical colleges in minor towns, where clinical advantages can hardly be said to exist to any extent. The time may soon come when any medical school outside of the great cities will be a rare exception.

Another significant sign of the times, shown in the report, is the increasing cost of medical education. It appears that the richest and best endowed schools charge the highest fees, and the tendency seems to be to increase rather than to diminish the cost of medical education. This might not appear, at first sight, an unmixed benefit, but considering the crowded state of the profession it can hardly be seriously objected to if it is in any way efficient in preventing the excessive production of doctors. It is to be presumed, moreover, that the quality of the medical education given corresponds with the price it costs, and that being true, no one ought to complain. There are, and probably always will be, some State-endowed colleges where the fees are moderate, and scholarships and other endowments for poor but meritorious students will also increase in time.

One of the most hopeful features of the report is the evidence it gives, that endowed medical professorships and colleges are beginning to make their appearance. As yet it is only a beginning and a small one, but it will increase, and the time when a medical professorship will necessarily mean something more than the possession of a certain amount of stock in a speculative enterprise or a device for "legitimate" medical advertising, may be said to be in sight. When it comes, and it is to be hoped it may come quickly, the status of a physician will be higher socially and financially, and one might perhaps even say morally, than it is, sometimes at least, at the present day.

CORRESPONDENCE.

Ether and Chloroform.

BOSTON, MASS., Jan. 6, 1897.

To the Editor:—Considerable has been written on the comparative use and danger of ether and chloroform. Only a few weeks ago I saw an article in which was the statement that a number of deaths by chloroform had occurred in women in confinement. Not many months ago I also saw it stated that no such case is on record. Now, which of these writers is correct? Has chloroform killed any woman under such circumstances? I, for one, have no remembrance of seeing such an instance reported. If both ether and chloroform cause death in such cases we must then select accordingly. There are several points, however, we may properly consider as between the two.

1. Help: An etherized patient, unless thoroughly under its influence, must be regarded as drunk or crazy, requiring considerable assistance to control and take care of her. It is not so with chloroform. The patient rather likes it and will call for it when not given to full anesthesia, and is able to think and talk and help the physician, quite different from ether. So that the assistance of the nurse and one other woman is all the help really required. I put the chloroform on the handkerchief and keep watch on the patient. The whole apparatus required is a lady's pocket-handkerchief, folded as it comes to me, and a small phial having a small neck for the chloroform. Then by placing the kerchief firmly over the mouth of the phial, the bottle is inverted so that only a few drops escape on to the kerchief. This bottle I keep within my reach and handle myself, using my left hand and removing and inserting the cork with my teeth. Thus any woman can hold the chloroform to the patient, returning the kerchief to me for renewal of the chloroform just preceding the next pain and keeping the more or less exhausted kerchief to the nose in the intervals of the pains. Thus more or less of the anesthetic can be used as the exigency requires to keep the pains bearable. If more chloroform has to be given during the last few pains that does not seriously affect the child. And even in instrumental cases, it is rare to need any extra skilled help; for by the time this is reached the woman giving the chloroform has become quite competent to follow the directions of the physician and take full charge of giving the anesthetic herself.

2. In heart cases chloroform has the advantage over ether.

3. Chloroform is not so dangerous to the child, since the

mother takes less of it to make her confinement comfortable, so that the child is rarely but slightly anesthetized as compared with ether, and speedily, in most cases, responds to changed circumstances and begins to breathe. Even in the heavier cases of anesthesia of instrumental cases, the time being short, there is usually little difficulty in bringing about respiration in the child, if the chloroform is laid aside and the cord is not cut. I remember but one child over which I worked many minutes before respiration was established. This mother was a particularly nervous woman and required considerable anesthesia and it was continued a much longer time than usual. When I hear of a stillbirth, the child being alive before, I always inquire if the mother did not take ether at the confinement, and this is generally answered in the affirmative.

4. Ether, by its greater stimulation of the circulation, I believe, is much more liable than chloroform to be followed by hemorrhage.

Without trying to exhaust the subject, I think these four points are greatly on the side of chloroform. And then if it is true that it is safer for the mother it becomes almost imperative that the accoucheur should give it, and give it instead of ether in confinement cases; for, if judiciously administered it is a most glorious blessing to this feature of suffering humanity. To be sure, etherization is a home invention, and the writer entered Harvard only a few years after its first application, and has witnessed the continuous prejudice in its favor ever since. Yet, from my own judgment and experience, I am strongly in favor of chloroform instead of ether in confinement cases, and from its easy application I believe no woman should be left to suffer much without it, and certainly we can not hesitate to use it when we would be slow to begin with ether.

E. CHENERY, M.D.

NEW INSTRUMENTS.

NEW AND COMPACT CASE FOR A COMPLETE SET OF OPHTHALMIC INSTRUMENTS WITH STERILIZING TRAY.

BY S D. RISLEY, M.D.

Attending Surgeon Wills Eye Hospital Philadelphia; Professor Diseases of the Eye in the Philadelphia Polyclinic and College for graduates in medicine.

Much annoyance is frequently experienced in transporting either a broad and unwieldy instrument case which will not fit into any convenient sized bag, or by the necessity of carrying about numerous smaller boxes containing instruments. I have avoided this for a long time by a number of smaller boxes containing a complete set of instruments for any of the more usual operations.

One of these contained a cataract set, another the instruments required for iridectomy, while a third contained a complete set for tenotomy, advancement, etc. Miscellaneous instruments were mingled in a fourth.

This plan requires an unnecessary multiplication of many instruments, *e.g.*, specula, lid elevators, forceps, scissors, etc., needed in almost all operations upon the eye. Then too it is not always possible to anticipate every requirement, so that in operating away from the office, it became necessary to carry a large bag, containing numerous instruments, boxes, a sterilizing tray, dressings, etc. To avoid these several inconveniences and annoyances, I have had constructed by Wall & Ochs, a small sterilizing apparatus, and a series of small trays, into which all the necessary instruments for any ophthalmic operation are carefully fitted with ample room for a considerable additional supply of knives, keratomes, etc. Each of the trays is readily withdrawn and replaced like the drawers of a desk, or bureau. The instruments are held firmly in place in each tray, by a readily adjusted binder. The entire case is so compact, that it will fit in a small sized hand bag, and still leave room for necessary dressings. With it the surgeon goes to his patient, confident that he has at hand every possible instrumental requirement.

The accompanying cut illustrates the general appearance of the case when open. The drawers or trays are represented as partially open. When pressed home and the front closed, and clasped under the flat leather handle at the top, the outside dimensions of the case are, 4½ inches wide, 6½ inches long and 6 inches high. The case may be purchased of the manufacturers, with or without these instruments, or orders for any portion of them will be received.

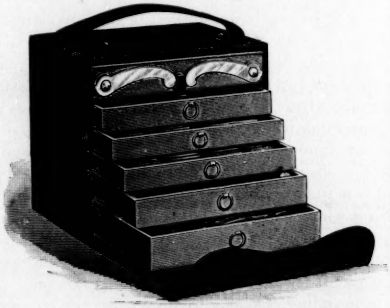
The following is a list of the instruments which have been carefully selected for filling the trays:

Speculum: Knapp's aseptic; lid elevator.

Forceps: Fixation, broad serrated grip; Stevens' fixation; tenotomy, fine rat tooth; iris; Knapp's capsule; Prince's advancement; cilia; Snyder's needle forceps; Knapp's roller forceps for trachoma.

Scissors: Spring, McClure's very small for operations in the anterior chamber, iridectomy, etc.; Knapp's iris; Stevens' tenotomy; angular; enucleation, curved on the flat; straight, one probe point.

Knives: 3 cataract, hollow ground; 1 Weber's canaliculus, probe point; 1 Beer's; 1 bistoury; 1 scalpel, small; 3 angular keratomes; 2 capsule knives, Risley's, secondary cataract, discission, etc.; 1 paracentesis; 1 cystotome and spoon.



Miscellaneous: aluminum spatula; needles, assorted in case; Desmarre's clamps; set of Bowman's probe silver Nos. 1 to 8; Risley' special lachrymal syringe, 2 canulas; Risley's canaliculus dilator; 2 fine silver lachrymal probes; 2 strabismus hooks; Stevens' strabismus hooks; Stevens' divulsor; Stevens' advancement hook; iris hooks, sharp and blunt; Knapp's silver spatula and probe; tortoise-shell spatula; tortoise-shell spoon; fine grooved director; foreign body spud; double hook; wire cataract loop.

These instruments have all been selected with special care, and are so constructed as to meet the writer's views of desirability in form and size.

Attention is called especially to the cataract knives, which are hollow-ground, the radius of curvature being 32 mm. Particular attention has been given to securing a suitably shaped point. A serious practical defect in many of the Graefe knives, as found in the market is the finely drawn long point. While this favors the easy puncturing of the cornea at the commencement of the incision, it often embarrasses the surgeon in making the counter puncture. Since the fine, almost needle point can not be readily followed in its course across the anterior chamber and at the corneal limbus, the counter puncture is almost certainly made further back than is intended. The large Annel's syringe I have found extremely cumbersome and unnecessarily large. The one included in the case is smaller,

has a circular flange at the upper part of the barrel, and a thumb ring for the control of the piston, so that the syringe can be filled and emptied readily with one hand. Another special feature is the small sterilizing tray with lamp constructed after the Andrew's model. This can be omitted if so desired, and an additional tray for larger miscellaneous instruments substituted.

This case has now been in use for almost two years, and has proved a great convenience. The instrument trays are constructed of white mahogany, and are very light though strong and durable. The outer box of the sterilizing tray is of nickel plated copper, while the inner tray and instrument rack are of aluminium. The knives have metal handles, and all the instruments are so constructed as to secure as far as possible ready sterilization. Special instruments have in each case been procured from the manufacturers selected by the surgeon who devised them. The others have been manufactured by J. H. Gemrig & Son, of Philadelphia, to whom and to Messrs. Wall & Ochs, opticians of Philadelphia, I am indebted for many courtesies in meeting my many demands in order to secure the instruments in exactly the form desired, and a neat, compact and convenient case for their suitable care.

PUBLIC HEALTH.

New York State Board of Health.—At the January meeting of this board there was some discussion over a novel question referred to the board in the matter of compelling the discharge of a popular principal in one of the public schools of Cazenovia on account of his being a consumptive and likely to inoculate the scholars with the disease. The local board of health was ordered to make a thorough investigation as to whether the health of the children was endangered, and to report to the State board.

The New York City Board of Health.—The following is a New Year's sentiment supplied to the *Herald* by the stock-broker president, C. G. Wilson, of that board. But, as usual, medical men have done all the important work. It may be taken as another argument why a medical man should be eligible to that presidency. If he actually believes what he says below, there are a host of his fellow citizens who can not follow him:

"The closing year has seen the lowest death rate New York has ever had. The year has been remarkable for a decrease in contagious diseases. We hope to attain the same degree of efficiency under Greater New York as in the New York of the year 1896. Every year has seen some little improvement; the coming year will see more. *In this d partment politics have never had a place*, and will not have in Greater New York. With the increase in population and territory there will be an expansion of organization. It is just as easy for the Health Department to care for three millions of people as for one and a half millions. Our methods will be the same in the future as in the year just ended." Whatever else is false in the above, it is certainly true that the last quarter of the year has had a very low rate of mortality. Twice during the quarter the rate fell below 15.2 per mille, and the average rate for the quarter should not exceed 16.75, which is a phenomenal showing for that section.

Death Rate by Sexes in New York.—In 1894 the tables of the Bureau of Vital Statistics recorded among men 56.91 per cent. of deaths from pneumonia, as against 43.09 per cent. among women, and in the following year 57.57 per cent. of men and 42.43 per cent. among women. Another year shows 2,759 deaths among males from pneumonia and 2,230 deaths among females. A similar proportion also exists in the deaths from consumption. During the past year there were 1,750 deaths from nervous diseases among men and but 1,460 deaths among women. Another popular notion which these statistics discredit is that women are more likely to become insane than men. Last year there were some 162 deaths from insanity among men and only 90 deaths among women. There is also a similar proportion in the case of deaths from suicide, which may be classed as the result of acute nervous disorders. There were 190 deaths from suicide among men last year, and but 49 deaths among women. Among the stronger, sturdier sex there were 1,023 deaths from heart failure last year, as against 955 among women. Women are also freer from diseases of contagion than men, although they are exposed to such dangers in about an equal degree with men. In the case of typhoid fever, for example, there were last year 201 deaths males, and 51 deaths females, and about the same proportion occurs in similar diseases. The contrast in the death rate among men and women is especially noticeable in the diseases which are for the most part self-inflicted by over-eating and drinking. The popular notion that most women suffer from eating too much candy and all the jokes based upon this theory, are quite without foundation. There is, for example, little or no gout among New York women. The vital statistics do not record this, because gout is seldom fatal. The very rare cases which have occurred for several years have been in almost every instance inherited from fathers. The immense contrast in the suffering from over-indulgence in alcohol between men and women is familiar to all. The statistics show that during 1895, 276 deaths occurred in New York from alcoholism, of which 219 were men and 57 women. Indigestion with all its accompanying ills is also much less common among women. There is also a very marked difference in the number of deaths from apoplexy, which may be classed as a result of this form of over-indulgence.

Disposal of Excreta in Rural Communities—The Dry Earth System.—In the *Dietetic and Hygienic Gazette*, December, Dr. Bashmore points out that no danger to health exists in rural sections that can for a moment compare with that which inheres in the dirty privy excavation and the foul cesspool. These nuisances contaminate the ground-water, which is about the only drinking-water that is available. For the reason that the changes that take place in the ground water *are out of sight*, the conjectures of our sanitarians may at times be overdrawn while the rural dweller may ignore the perils that await himself and family simply because they are not visible. The earth-closet for excreta and the deep driving of wells are points of vast importance, but it is safe to say that in the country not one person in a hundred knows what the words mean. If we could get village dwellers to understand the sanitary value of this method of excreta disposal, it would be a great step in progress. Some of the State Boards of Health are working in the right direction and issue circulars containing instructions for the making of earth-closets. The material to be used in the receptacle may be either ashes or dry earth. In summer dry earth can be taken directly from a garden bed and for use in winter may be stored in barrels. Ashes are perhaps better if the closet is in the house, for the ashes are lighter and more absorbent. Experience has shown than an ash closet if properly used, is absolutely inodorous; hard coal ashes are the right kind to use and should be sifted through a fine sieve; there is no better way than this to dispose of the winter's ashes. The disposal of the contents of the closet is perhaps the stumbling block to many. This material, whether ashes or earth has been used, may be placed on a corner of the garden bed and covered with a little earth or it may be buried a few inches under the soil; or lastly, it may be kept in a dry place, covered with earth and carted away at some suitable time by the farmer for use as fertilizer; of course the agent of disposal in all cases is the nitrifying bacteria. To be sure, if too much ash is used, nitrification is delayed, but with the mixture of a little earth the results are all that one could desire. Another way of using the earth closet, especially for schools or large dwellings, is to have the privy constructed with what Prof. Coore calls a dry catch,

which is a large, dry and cemented vault underneath. The seat is very much like the hopper of an ordinary water-closet with a movable pan at the lower end to prevent draught. The excreta fall to the vault beneath and every evening they should be covered with dry earth through an opening on the outside. Every week or so the contents are taken away for fertilizer. This is the ideal method for disposal in country schools but it will likely be many years before country school boards adopt it. It seems to me, that small incorporated towns might be able to do something on the line of the dry earth privy, by having a scavenger clean all privies every week; individuals can not be depended to take care of earth privies, at least just at the present state of progress.

Advance in Teaching Methods in Hygiene.—The *Montreal Medical Journal*, November, points out some of the improvements about to be made at the McGill University, saying:

The scope of hygiene is enormous; almost co-equal with that of medicine itself. Even as ordinarily taught there are three highly important subdivisions of the subject, namely, 1, preventive medicine; 2, environmental hygiene as we may term it, namely, hygiene of the surroundings of the individuals, *i. e.*, ventilation, water supply and disposal of sewage, and 3, hygiene of food, pure food and its adulterations and departures from standard. To treat properly the first of these, the hygienist should be a fully equipped bacteriologist and pathologist; to deal authoritatively with the second, he should be a professional engineer and sanitarian; to enter into details of the third, it is imperative that he be an organic chemist of the first order. When we knew relatively little and the subject was in its infancy, it was possible for one man to deal comfortably with all these subjects; but this is no longer possible, and the teaching of hygiene in every university has, in consequence, suffered. In Great Britain the difficulty is often disposed of by making the professorship or lectureship in hygiene one of the stepping stones to professorships in other subjects, and as a consequence the teaching is poor and perfunctory. In Germany, the professors in hygiene are now almost entirely trained bacteriologists, and but a few of the disciples of Pettenkofer have attempted, with partial success, to cover the whole ground. In America, again, it would seem, judging from the department of hygiene in University of Pennsylvania, that following the German system, the bacteriologic aspect of the subject is being regarded as the most important. For more than two years the medical faculty of the McGill University has been debating as to how, under the circumstances, to make the best use of Sir Donald A. Smith's endowment of $50,000 toward the establishment of a department for hygiene, and as Dr. Craik points out in his introductory address in this number, the solution reached is, that it is impossible to appoint one man to teach the whole subject. Dr. Craik himself is appointed head of the department, but the teaching in the three main branches is given over to those members of other departments who are presumably most competent to deal authoritatively with each special branch of this subject. In this way it is hoped that the subject will be treated in a manner commensurate with its importance in the medical curriculum.

ASSOCIATION NEWS.

Members of Special Committee on a Department of Public Health, American Medical Association.

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New Mexico, F. H. Atkins, East Las Vegas.
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Washington, J. B. Eagleson, Seattle.
West Virginia, J. R. Cook, Montana Mines.
Wisconsin, *U. O. B. Wingate, Milwaukee.
Wyoming, E. Stuver, Rawlins.

* Names thus marked were members of the original committee appointed at San Francisco.

American Pharmaceutical Association.—The following subjects have been referred by the American Pharmaceutical Association to the AMERICAN MEDICAL ASSOCIATION, to be considered at the next meeting of the latter in Philadelphia, hoping that some action may be taken expressing the sense of physicians in convention assembled in relation to the important points requiring coöperation between the physicians and pharmacists of the United States for decision.

That these points may be taken up for joint debate, the following mentioned gentlemen, representing the National organization of pharmacists, State associations and educational institutions, have been appointed by the President of the American Pharmaceutical Association as a delegation to attend the meeting of the National association of physicians. This delegation will report back to the American Pharmaceutical Association when it meets in convention at its next annual convocation at Lake Minnetonka, Minn., August 23 to September 6, 1897:

A. E. Ebert, Chicago, Ill.; John U. Lloyd, Cincinnati, Ohio; H. H. Rusby, M.D., New York, N. Y.; E. L. Patch, Boston, Mass.; Joseph P. Remington, Philadelphia, Pa.; A. B. Prescott, Ann Arbor, Mich.; H. M. Whelpley, M.D., St. Louis, Mo.; S. P. Sadtler, Philadelphia, Pa.; Lucius E. Sayre, Lawrence, Kan.; Chas. Caspari, Jr., Baltimore, Md.; Wm. S. Thompson, Washington, D. C.; D. M. R. Culbreth, M.D., Baltimore, Md.; Henry Trimble, Philadelphia, Pa.; C. Lewis Diehl, Louisville, Ky.; Wm. M. Searby, San Francisco, Cal.; H. R. Slack, M.D., La Grange, Ga.; J. N. Hurty, Indianapolis, Ind.; L. F. Chalin, New Orleans, La.; T. D. Reed, M.D., Montreal, Canada; C. S. N. Hallberg, Chicago, Ill.; Jas. H. Beal, Scio, Ohio; Louis C. Hopp, Cleveland, Ohio; Joseph Jacobs, Atlanta, Ga.; A. R. L. Dohme, Baltimore, Md.; O. Oldberg, Chicago, Ill.; C. R. J. Kellam, M.D., Heron Lake, Minn.; R. W. Williams, Three Rivers, Canada; R. G. Eccles, M.D., Brooklyn, N. Y.; Chas. Rice, New York, N. Y.; Virgil Coblentz, New York, N. Y.; W. C. Alpers, New York, N. Y.; Edw. Kremers, Madison, Wis.

The subjects referred are as follows:

1. Liquor Selling in the Drug Stores. This was the subject of a paper read before the American Pharmaceutical Association at its last annual meeting, held in Montreal in August, 1896, by Mr. H. M. Whitney, of Massachusetts. It is to be hoped the paper will receive that attention that its merits and the importance of the subject demands, and that physicians may come to the next meeting of the AMERICAN MEDICAL ASSOCIATION prepared to discuss the points that have been raised, both pro and con.

2. The following Sections from the Report of the Committee on Revision of the United States Pharmacopeia of the AMER-

ICAN MEDICAL ASSOCIATION: 15. Dismiss spiritus frumenti and spiritus vini gallici from the United States Pharmacopeia. 16. Dismiss vinum album and vinum rubrum, and all medicated wines, from the United States Pharmacopeia. 17. Dismiss all tinctures having a fluid extract of the same drug official, and all fluid extracts having a tincture of same drug official, and substitute for such tinctures and fluid extracts, 50 per cent. tinctures under a distinctive title. 22. Return to potassium sulphate as a diluent in making Dover's powder, in place of sugar of milk, used since 1880.

In addition to the above points referred by the American Pharmaceutical Association, the Special Committee on National Legislation of the American Pharmaceutical Association will bring up for joint debate the question: Would it be advisable to advocate legislation in each State making it obligatory for the manufacturers of medicine, whether advertised to the laity, or to the medical profession, or put up in packages for sale to the public, or for physicians dispensing, to publish the exact working formulas and methods of manufacturing all such medicines, in some well-known periodical, or other publication of ready reference, or in some bulletin devised for the purpose, or, when practicable, on the labels of such medicines, so that all may be able to ascertain their exact composition? The object of this proposition is to protect the public from imposition by designing persons who make it a business to delude the public by promising cures for serious diseases by the administration of remedies that have been long ago tested for such affections and proved valueless, or offering alleged new remedies for similar purposes which may or may not be valuable, but whose true merits it is impossible to understand without a careful study of the claims made for them, which is impossible under the present system of secrecy, or semi-secrecy, with which they are enveloped by those who manufacture and market them.

F. E. STEWART, M.D.

Chairman of the Delegation, and Chairman of the Special Committee on National Legislation of the American Pharmaceutical Association.

SOCIETY NEWS.

The Twelfth International Medical Congress.

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SECTION 9, A.—DISEASES OF THE TEETH.

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President, Prof. L. L. Levchine, Moscou. Members of Committee, A. J. Bieliaew, M.D., associate inspector-in-chief of military medical service, St. Petersburg; L. A. Zaoustsinsky, inspector of the military service, district of Moscou; W. S. Koudrine, inspector-in-chief of the medical service of the navy, St. Petersburg; B. B. Pachoutine, chief of the military medical academy, St. Petersburg: J. T. Raptchevsky, agrégé, St. Petersburg; A. A. Remmert, inspector-in-chief medical military service, St. Petersburg. Secretary, S. E. Beresowsky, agrégé, assistant, surgical clinic, Moscou University.

SECTION 11.—DISEASES OF THE EYE.

Presidents, Profs. A. A. Krukow, T. O. Evetsky, Moscou. Members of Committee, Prof. E. W. Adamuck, Kazan; Prof. P. N. Barabaschew, Kharkow; Prof. L. C. Belliarminow, St. Petersburg; W. T. Wagner, M.D., Odessa; Prof. W. von Wahlfors, Helsingfors; Prof. L. L. Hirchmann, Kharkow; Prof. G. A. Donberg, St. Petersburg; S. N. Lojetchnikow, M.D., Moscou; Count J. Ch. Magavly, physician-in-chief Ophthalmologic hospital, St. Petersburg; Prof. E. P. Raehlmann, Iouriew; Prof. A. W. Khodine, Kiew. Secretary, S. S. Golovine, agrégé, assistant in ophthalmologic clinic, University of Moscou.

SECTION 11, A.—DISEASES OF THE EAR.

President, S. T. von Stein, agrégé, Moscou. Members of Committee, W. R. Beyer, M.D., Moscou; Th. Heiman, M.D., Varsovie; M. S. Jirmounsky, M.D., Moscou; E. N. Malutine, M.D., Moscou; W. N. Okounew, M.D., St. Petersburg; S. S. Préobrajensky, agrégé, Moscou; Fr. Voss, M.D., Riga; A. Chr. von Schwanebach, M.D., St. Petersburg. Secretary, K. J. Kaspariantz, M.D., Moscou.

SECTION 12, B.—DISEASES OF THE LARYNX AND NOSE.

President, E. M. Stépanow, agrégé, Moscou. Members of Committee, G. N. Boëw, M.D., Moscou; A. T. Biélaew, M.D., Moscou; B. W. Werkhovsky, agrégé, Moscou; N. M. Wolkovitch, agrégé, Kiew; A. E. Gaoudring, M.D., Moscou; T. Ed. Hering, M.D., Varsovie; Prof. M. M. Lomikovsky, Kharkow; Prof. W. N. Nikitine, St. Petersburg; K. A. Raukhfuss, physician-in-chief infants' hospital of Prince of Oldenburg, St. Petersburg; Prof. N. P. Simanowsky, St. Petersburg; A. J. Sokolowsky, M.D., Varsovie; M. A. Fronchtein, M.D., Moscou; N. J. Skott, M.D. Moscou; A. W. Jakobson, M.D., St. Petersburg. Secretary, A. T. Biélaew, M.D., Moscou.

SECTION 13.—OBSTETRICS AND GYNECOLOGY.

Presidents, Profs. Makéyew and Snéguirew, Moscou. Members of Committee, Prof. A. P. Goubarew, Iouriew; Prof. A. J. Krassovsky, director obstetric hospital, St. Petersburg; Prof. J. P. Lazarévitch, St. Petersburg; Prof. A. J. Lébédew, St. Petersburg; J. M. Lwow, agrégé, Kazan; Prof. D. O. Ott, director obstetric institute, St. Petersburg; Prof. G. E. Rein, Kiew; B. B. Soutouguine, inspector medical service, St. Petersburg; Prof. J. T. Tolotchinow, Kharkow; Prof. N. N. Fénomenow, Kazan; Prof. P. A. Yassinsky, Kharkow; Prof. N. B. Yastrébow, Varsovie. Secretaries, W. F. Bobrow, agrégé, assistant in the gynecologic clinic, University of Moscou; N. J. Pobiédinsky, agrégé, assistant in the gynecologic clinic, University of Moscou; G. T. Matvéiew, assistant in the obstetric clinic, University of Moscou; J. J. Eichtmeyer, M.D., Moscou; G. D. Hume, Moscou.

SECTION 14.—HYGIENE, ETC.

Not yet published.

SECTION 15.—LEGAL MEDICINE.

President, Prof. J. J. Neyding, Moscou. Members of Committee, E. F. Belline, agrégé, Kharkow; A. J. Bogoslovsky, member of medical directory, Moscou; P. J. Zarine, member medical directory, Moscou; Prof. N. P. Iwanowsky, St. Petersburg; J. A. Krasnowsky, member of medical directory, Moscou; Prof. V. A. Légonine, Moscou; P. A. Minakow, prosector, University of Moscow; Prof. N. A. Obolonsky, Kiew; B. M. Ostroglazow, chief of medical directory, Moscou; Prof. T. A. Patenko, Kharkow; J. J. Souslow, member of medical directory, Moscou. Secretaries, P. A. Minakow, prosector, University of Moscou; A. J. Zaborowsky, assistant prosector, University of Moscou.

Medico-Legal Society.—At the election held on Wednesday, Dec. 16, in New York City, the following officers were elected:

President, Hon. Jacob F. Miller, New York City; First Vice-President, Geo. L. Porter, Conn.; Second Vice-President, Albert Bach, Esq., N. Y. Vice-Presidents for the States, Territories and Provinces: Alabama, Judge Thos. W. Coleman, Montgomery. Alaska, Clarence Thwing, Sitka. Arizona, George Goodfellow, M.D., Tucson. Arkansas, H. C. Dunavant, M.D., Osceola. Austria, Prof. R. Krafft Ebing, Vienna. Belgium, Dr. Jules Morel, Ghent. Brazil, Prof. Nina Rodrigues, M.D., Bahia. California, A. E. Osborne, M.D., Glen Ellen. Colorado, Prof. J. T. Eskridge, Denver. Connecticut, Judge A. M. Talmadge, Bridgeport, China, Harold Browett, Esq., Shanghai. Cuba, Dr. Venancio Zorilia, Havana. Dakota, N., O. W. Archibald, M.D., Jamestown. Dakota, S., John M. Harcourt, Steele. Delaware, Judge Ignatius C. Grubb, Wilmington. Denmark, Prof. Godeken, Copenhagen. District of Columbia, W. W. Godding, M.D., Washington. Dominion of Canada, Hon. A. G. Blair, Ottawa. England, William L. Orange, M.D., London. Ecuador, Senor J. M. P. Cammano, Washington, D.C. Florida, Dewitt Webb, M.D., St. Augustine. France, Victor Parent, M.D., Toulouse. Georgia, Richard J. Nunn, M.D.,

Savannah. Germany, Dr. H. Laehr, Berlin. Gautemala, Senor Rafael Montufar. Holland, Dr. P. A. H. Sweens, Vucht. Hungary, Staatsanwalt Em. V. Havas, Buda Pesth. Illinois, J. E. Owens, M.D., Chicago. Indiana, W. B. Fletcher, M.D., Indianapolis. Indian Territory, I. H. Bailey, M.D., Dexter. Iowa, Jennie M. Cowen, M.D., Davenport. Ireland, Conolly, Norman, M.D., Dublin. Italy, Enrico Ferri, M.D., Rome. Japan, Dr. J. Hashimoto, Tokio. Kansas, Judge Albert H. Horton, Topeka. Kentucky, Dr. D. W. Yandell, Louisville. Louisiana, I. J. Scott, M.D., Shreveport. Maine, Judge L. A. Emery, Ellsworth. Manitoba, D. Young, M.D., Selkirk. Maryland, Wm. Lee Howard, M.D., Baltimore. Massachusetts, Theo. H. Tyndale, Boston. Michigan, Prof. Victor C. Vaughan, Ann Arbor. Minnesota, T. Gold Frost, Esq., Minneapolis. Missouri, W. B. Outten, M.D., St. Louis. Mississippi, Dr. C. A. Rice, Greenville. Montana, Judge Wm. H. Francis, Missoula. Nebraska, Hon. John M. Thurston, Omaha. Nevada, S. M. Bishop, M.D., Reno. New Brunswick, Judge A. L. Palmer, St. John. Newfoundland, Dr. K. D. McKenzie, St. Johns. New Hampshire, Gran. P. Conn, M.D., Concord. New Jersey, Judge C. G. Garrison, Camden. New Mexico, Gov. Bradford L. Prince, Santa Fe. New South Wales, George A. Tucker, M.D. New York, Mrs. M. Louise Thomas, New York City. New Zealand, Prof. Frank G. Ogston, Dunedin. North Carolina, E. C. Smith, Esq., Raleigh. Norway, Dr. Harold Smedal, Christiana. Nova Scotia, Hon. Wm. S. Fielding, Ottawa. Ohio, R. Harvey Reed, M.D., Columbus. Oklahoma Territory, A. H. Simonton, M.D., Oklahoma City. Ontario, Daniel Clark, M.D., Toronto. Oregon, Ex-Chief Justice, Hon. Wm. P. Lord, Salem. Pennsylvania, J. B. Murdock, Pittsburg. Peru, Senor F. C. C. Zegarro, Washington, D. C. Portugal, Bettincourt Rodriguez, M.D., Lisbon. Quebec, Wyatt Johnson, M.D., Montreal. Rhode Island, Henry R. Turner, M.D., Newport. Russia, Prof. Dr. Mierzejewski, St. Petersburg. Saxony, Judge de Alinge, Oberkotzon Hof. Scotland, W. W. Ireland, Preston Pans, Edinburgh. Servia, Hon. Paul Savitch, Belgrade. Sicily, Prof. Dr. Fernando Puglia, Messina. Silesia, H. Kornfeld, M.D., Grotkau. South Carolina, J. W. Babcock, M.D., Columbus. Spain, Sig. A. M. Alv. Taladriz, M.D., Vailadolid. Sweden, Prof. Dr. A. Winroth, Lund. Switzerland, Prof. Dr. L. Wille, Basle. Tennessee, Michael Campbell, M.D., Nashville. Texas, Dr. D. R. Wallace, Terrell. Utah, Frederick Clifft, M.D., St. George. Vermont, Prof. A. P. Grinnell, Burlington. Virginia, William F. Drewry, Petersburg. Washington, J. W. Waughoop, M.D., Ft. Stellacoom. West Virginia, F. M. Hood, M.D., Weston. Wisconsin, Dr. U. O. B. Wingate, Milwaukee. Secretary, Clark Bell, Esq., New York. Corresponding Secretary, Moritz Ellinger, Esq., New York. Assistant Secretary, Caroline J. Taylor, Connecticut. Pathologist, Paul Gibier, M.D., New York. Treasurer, Hon. Rastus S. Ransom, New York. Chemist, Geo. B. Miller, M.D., Philadelphia, Pa. Curator, F. R. Downs, M.D., Bridgeport, Conn. Toxicologist, Prof. W. B. McVey, Boston. Librarian, Margherita Arlina Hamm. Assistant Librarian, Judge Lewis J. Conlon, New York. Bacteriologist, G. Bettini di Moise, M.D., New York. Microscopist, Prof. Moses C. White, M.D., Connecticut. Trustees: Legal, for three years Ida Trafford Bell, to fill vacancy Jas. L. Bennett, Esq.; Medical, J. C. Maguire, M.D., New York. Counsellors, for three years, Rosalie Loew, Judge A. M. Tallmadge, Connecticut. Permanent Commission: Legal, Clark Bell, Esq., New York; Medical, Geo. L. Porter, M.D., Connecticut.

The Northern Tri-State Medical Association will meet in Fort Wayne, Ind., Jan. 19, 1897. The following papers will be read: Report of surgical cases, by Dr. W. D. Hamilton, Columbus, Ohio; The chromoscope, a new instrument useful as a ready test of color perception, by Dr. L. E. Maire, Detroit, Mich.; Some of the diseases of the lachrymal apparatus, by Dr. A. E. Bulson, Jackson, Mich.; Ocular manifestations of syphilis, by Dr. Kent. K. Wheelock, Fort Wayne, Ind.; Diagnosis of syphilis, by Dr. Carl Proegler, Fort Wayne, Ind.; Ectopic gestation with retained fetus, by Dr. L. H. Dunning, Indianapolis, Ind.; Errors of refraction as an etiologic factor in the production of blepharitis marginalis, by Dr. A. E. Bulson, Jr., Fort Wayne, Ind.; Posterior deviations of the uterus, by Dr. J. H. Carstens, Detroit, Mich.; Some thoughts on the treatment of incipient phthisis, by Dr. Budd Van Sweringen, Fort Wayne, Ind.; A year's acquaintance with appendicitis, by Dr. H. O. Walker, Detroit, Mich.; The radical cure of hernia, an improved method, by Dr. Hal. C. Wyman, Detroit, Mich.; The doctor as a witness, by Dr. D. C. Chapman, Toledo, Ohio; Surgical treatment of senile gangrene, by Dr. E. B. Harrison, Napoleon, Ohio; Some suggestions on the treatment of the heart, by Dr. W. E. Dickey, Tiffin, Ohio; Bacteriology of the vaginal secretions, by Dr. C. U. Smith, Toledo, Ohio. Papers will be read by Drs. W. H. Myers, Fort Wayne, Ind.; D. W. Fenton, Reading, Mich.; Hausencamp, Toledo, Ohio, and Curran Pope, Louisville, Ky.

NECROLOGY.

JOHN C. HALL, M.D., of Medical Lake, Wash., died Nov. 29, aged 76 years. Dr. Hall was a native of Vermont. He graduated from the medical department of Harvard University and afterward located at Monroe, Wis. At the commencement of the civil war he entered the army as assistant surgeon of the Sixth Wisconsin Infantry, and at the close of the war was chief surgeon of Gen. Bragg's famous "Iron Brigade." He then returned to Wisconsin and engaged in general practice. He served one term in the Wisconsin State Senate and also served for many years as a member of the Board of United States Pension Examiners. In 1891 Dr. Hall and his family moved to Medical Lake, Wash., where he lived a retired life. At the time of his death he was president of the Board of United States Pension Examiners at Spokane, Wash.

WILLIAM NEWMAN, M.D., of Brooklyn, died Dec. 31, 1896, aged 76 years. He was a native of England, came to this country about 1846 and one year later received an honorary M.D. from the State Medical Society of New York. He practiced in New York city during the greater part of his professional life, going to Brooklyn, about 1890. He was a member of the New York County Medical Society. The cause of his illness was valvular lesion of the heart.

Prof. EMIL DUBOIS-REYMOND, the distinguished psychologist of Berlin, died December 26. He was born in that city in 1818. He began studying theology, but abandoned this for natural science. After a sojourn at Bonn he returned to Berlin and studied anatomy and physiology under Jean Muller, and on his advice undertook his researches in animal electricity, on which subject he published several works. In 1868 he replaced his master as professor of physiology at the University of Berlin, and was named in 1869, Perpetual Secretary of the Berlin Academy of Sciences.

CHARLES HEITZMANN, M.D., Vienna, 1859, died in Rome, Italy, Dec. 6, 1896, aged 60 years. He was a native of Hungary and a practitioner of New York City, where he was a neurologist of note, and for three years president of the German Medical Society.

LOUIS LEON DESAULNIERS, M.D., a prominent character in Canadian public life, is the subject of a brief memorial note in the *Montreal Medical Journal*. "We regret to have to record the death of Dr. Desaulniers, which occurred on October 31 last, after a few days' illness. He was born at Yamachiche, P. Q., in 1823, and graduated in medicine from Harvard University in 1846. He was inspector of prisons and asylums for twenty-eight years and for many years chairman of that board. He was well known in political circles, having been elected member of the Canadian House of Assembly in 1854, and member of the House of Commons in 1867 and again in 1878. He was a Justice of Peace and also a Lieut.-Colonel of Militia."

JAMES HEDDEN TRUMBULL, M.D., died in Iquique, Chili, South America, November 12. He was a graduate of Yale, 1848, and of the College of Physicians and Surgeons, N. Y., 1852. He immediately went to Chili after graduation and almost from the first became prominent in his profession.

JAMES S. SERRIN, M.D., Medical College of Indiana, 1881, died in Indianapolis, December 13, aged 65.

SELDON W. JONES, M.D., Bowdoin, Me., 1853. A native of Boston, Mass., died December 16, in Leavenworth, Kan., where he had long resided.

FREDERICK ARNOLD MANNING, M.D., born in Eddyville, Ind., May 4, 1859, died in Denver, Colo., of tuberculosis, Dec. 3, 1896. He was a graduate of Yale College in 1881 and of the College of Physicians and Surgeons, N. Y., 1884. After serving on the surgical house staff of the N. Y. Hospital he practiced a while in New York City and served on the visiting staff of several hospitals but was obliged in 1895 to seek recuperation of his health in Colorado. He was a member of the N. Y. County Medical Association. His remains were interred in South Coventry, Conn.

GEORGE URQUHART, M.D., Jefferson Medical College, 1850, died at his residence in Wilkesbarre, Pa., Dec. 19, 1896, aged 68 years.

JAMES W. COLE, M.D., Jefferson Medical College, 1881, died of pneumonia Dec. 15, 1896, aged 35 years.

JAMES W. ROBINSON, M.D., Jefferson Medical College 1889, died in Philadelphia, Pa., Dec. 13, 1896, aged 51 years. For a number of years he was pastor in a Presbyterian church.

MISCELLANY.

R. M. Eames, M.D., of Seattle, has been appointed a member of the Washington State Board of Health and Bureau of Vital Statistics.

The "General Practitioner."—The *General Practitioner* of St. Louis has been sold to Dr. James Moores Ball, who will publish it in connection with the *Tri-State Medical Journal*. The consolidated publication will bear the name of *Tri-State Medical Journal and Practitioner*.

A Basis for Expert Opinions.—In an action to recover damages for maltreatment alleged to have resulted in a miscarriage, the supreme court of Wisconsin says, Nov. 24, 1896, McKeon v. C., M. & St. P. Ry. Co., that it perceives no error in allowing the experts, who had heard the plaintiff give part of her testimony in court, and then heard the balance of her testimony read to them by the court reporter, to testify what, in their opinions, was the cause of the miscarriage, assuming the testimony of the plaintiff to be true.

The Scotograph.—This is a desk so arranged that a couple of rods cross the writing table from side to side. It is designed for the use of the blind, who write between the rods while the paper is held and moved along by an ingenious device. It is much simpler than the typewriter for those unaccustomed to it, who have learned to write before they became blind. In some recent experiments with it at the Blind Asylum at Amsterdam, children of 6 learned very rapidly to write with the assistance of the scotograph, which is the invention of Dr. Nord, but it is especially designed for the use of scholars, etc., who have become blind late in life and still wish to continue their literary activity.—*Annales de la Soc. Med.-Chir. de Liège*, November.

Dr. Squibb's Misfortune.—It is with great regret we learn that Dr. Edward R. Squibb of Brooklyn, to whom the medical profession has in the past owed so much, was recently obliged to submit to amputation of his left hand in consequence of an affection which threatened blood poisoning. The anesthetic was administered by his own hand. Dr. Squibb seven years since passed the allotted limit of three-score and ten, but is yet active and interested in all that pertains to medicine and medical science and it is to be hoped that he will be spared to us for many years to come. It is with profound sorrow that we hear of his affliction, which is really a sequel to severe injuries received thirty years ago from the explosion of a vessel of ether. —*Medical Age.*

Not Insurer of Quality of Food.—A restaurant keeper, according to the decision of the supreme court of Illinois, handed down Nov. 9, 1896, in the case of Sheffer v. Willoughby, is not an insurer of the quality of the food which he serves. If he fails to exercise ordinary care in the furnishing of food to his patrons, or conducts his business in a careless or negligent manner, and damage results, he is liable therefor. But as to food served at a restaurant, such as oysters, ice cream and the like, the court says that it is not aware that there ever existed a rule establishing liability similar to the one which makes innkeepers presumptively liable for losses which happen to the goods of their guests.

Shorthand for Medical Men.—Mr. William Thomson, F.R.S.I., President of the Royal College of Surgeons in Ireland, in a recent address gave his estimate of the value of stenography to professional men as follows: "I can not leave this part of my address without telling you of another advantage which you ought to acquire. I allude to shorthand. Last year we held in London the first meeting of the Society of Medical Phonographers, under the presidency of the distinguished physician, Dr. Gowers. That society now numbers nearly three hundred members. We have a monthly medical journal, printed altogether in shorthand, and full of admirable information. I can not now enter as fully as I should wish into the great benefits which a knowledge of this art will confer upon you. I am glad to know that there are many in this school who have acquired it, and I urge others to set about learning it. Do not be frightened by its apparent difficulty. I assure you that it is simplicity itself if you set about it properly. It will save you in the end three-fourths of your time in note-taking, and you will soon find out what that means. I have written it since I was a lad, and it has enabled me to do with ease duties which I could not have accepted in an otherwise laborious life."—*The Scalpel*, December.

Admissibility of Expert Evidence.—Who is entitled to be considered as an expert in regard to any question of science or skill, the court of errors and appeals of New Jersey holds, Nov. 16, 1896, in New Jersey Zinc and Iron Co. v. Lehigh Zinc and Iron Co., can not be determined by any precise rule, but from the nature of the case, must be left very much to the discretion of the trial judge; and his decision is conclusive unless clearly shown to be erroneous in matter of law. The interest of an expert witness affects the weight, not the legality, of his testimony. Books of science are generally inadmissible in evidence to prove the opinions contained in them; but, if a witness refers to them as an authority for his own opinions, they may be received for the purpose of contradicting him. The admission of almanacs, mortuary tables and perhaps some other scientific publications of undisputed accuracy, seems to form an exception to the rule.

Nervous Functions of the Suprarenal Capsules.—Dominicis has already published various studies of the functions of the suprarenal capsules, and a recent article by him in the *Gazzetta d. Osp. e d. Clin.* of November 22, throws new light upon their connection with the nervous system. The experiments he describes on dogs and rabbits consisted in the transplantation of one capsule, after ligating its pedicle, to the internal and anterior surface of the kidney, leaving its point of attachment intact. The animal remained in the same health as before. Ten to fourteen days later, he removed the other capsule, and in every case the animal died in three hours with the same symptoms as when both capsules are removed at once. The transplanted capsule showed no traces of degeneration, anatomically nor histologically, and seemed to be perfectly normal. Its function, however, was evidently suspended, and it was unable to take the place of the other capsule when it was removed, as occurs in the case of glandular organs with an internal secretion, when they are transplanted or ingrafted, the thyroid gland for instance. He adds his experience that section of the spinal cord below the level of the capsules invariably retards death for eighteen to twenty-six hours when both capsules are removed at once. These facts demonstrate that we must look elsewhere than to an exclusively glandular function in ascribing a rôle to the suprarenal capsules.

Cruelties Toward Deformed Children.—The lame, the halt and the blind have little consideration in this world; how they will come off in the next is a matter for conjecture. Great riches are subscribed in England for charitable purposes, but it is beyond understanding why an institution could not readily be found for the poor little daughter of Annie Sheldon, who is now doing her three months for sending the child out to beg. It was stated that she "had deformed hands and feet like lobster claws." Nothing is more revolting than the exposure of wounds and deformities, especially when they serve for begging purposes. So thought Mr. De Rutzen, who was horrified by the fact that no institution could be found to take her without money; he thought that such a society as the National Society for the Prevention of Cruelty to Children might stretch a point in this case. To the surprise of all, Mr. Moreton Phillips stated the society was not rich, but was £13,000 in debt; this seems remarkable after so much has been done for it, and such a society can hardly commend itself to those who always contrive to live within their means. If we all worked on the same principle what would become of us. A private society with an income of £60,000 derived from the charitable, should keep out of debt and set an example to smaller ones. Perhaps the N. S. P. C. C. is doing too much and is like the little pig who tried to grunt before it could squeak.—*The Scalpel*, December.

Why Morton Failed.—It is the feeling of many medical men that the failures of Morton and of Jackson to score a greater success in the introduction of ether-anesthetization were due to the intrusion of the mercenary element in the matter. A letter just published in the Boston *Medical and Surgical Journal*, from the pen of Dr. Wm. Henry Thayer, formerly of Brooklyn and still earlier of the old Berkshire Medical School, brings out this feature in an unmistakable light, as follows: "In 1846 I was admitting physician to the Massachusetts General Hospital, saw the first administration of ether there and have a vivid recollection of the professional interest in the successful experiment. If Wm. T. G. Morton had presented the subject to the medical profession in the manner in which scientific men and physicians are accustomed to publish a discovery or an invention—as something that belongs to science—making no concealment or false pretence, the credit of his discovery would have been unanimously awarded to him. But his experiments were purely in mercantile interest. He wished to conceal the nature of the substance he was using. He came to the hospital surgeons with a false statement. He had colored the ether and stated that it was a composition whose ingredients were his own secret. He called it 'letheon.' He wished to secure the endorsement of the medical profession, but reserve for himself control over its use. Medical men surmised that it was simply sulphuric ether, which he was soon obliged to allow. There is no question that the use of sulphuric ether as an anesthetic at that time was due to the enterprise of Morton; and he would never have found it necessary to make any claim for the credit of it, if he had conducted himself honorably in relation to it."

An Accident of Tubal Pregnancy.—According to the *Scalpel* for December, at the last meeting of the West London Medico-Chirurgical Society, Mr. Mansell Moullin read a paper on "Intraperitoneal Hemorrhage in Connection with Tubal Pregnancy." Arrest of the fertilized ovum in the Fallopian tube was of much more frequent occurrence than was generally supposed, and was the most common cause of hemorrhage in the peritoneal cavity. Hemorrhage was not necessarily due to rupture of the tube. More frequently a more or less gradual loss of blood took place from the "ostium abdominale," and thus slowly effused, coagulated with the formation of a tumor. In some instances the tumor was limited by the neighboring organs, bound together by adhesive peritonitis. In other instances the outer layer of the clot became organized, constituting a limiting membrane, as pointed out by Mr. Taylor of Birmingham. These conditions might be combined. As a rule the hemorrhage occurred at a very early date, within from ten to fourteen days from the arrest of the ovum in the tube. The ovum almost invariably perished at the same time. Dr. Mansell Moullin then drew attention to the leading symptoms of this condition, illustrating them by reference to cases which had been under his care in the West London Hospital, and urged the advantages of early operation in all cases where a considerable hemorrhagic tumor was present.

Accident Insurance in Relation to Physicians.—A recent *Bulletin* of the Fidelity and Casualty Company of New York refers to the fact that two other accident insurance companies have followed the course taken by it in raising the rate on physicians and surgeons. The company years ago became satisfied that these useful men do not properly belong in the preferred class, and rated them accordingly; they are exposed to septic poisoning from slight scratches or cuts, harmless in themselves, and "a doctor can not well do without transportation and he becomes the victim of that most productive instrument of disabling injuries, the horse, which, by runaway or collision, is responsible for more claims upon accident companies than any other single cause we know of." The insurance editor of the *Independent*, in this relation, treats of the hazards of the bicycle, a means of locomotion so largely used by our profession, as a question that is still undetermined among the companies. It says the possibilities of injuries are always against the cycler. Necessarily one assumes exposure to a special class of hazards when he mounts the wheel, but he escapes some others; thus, he can not then be injured by being a passenger on any public conveyance, nor can the ceiling fall on him. Mutual accident companies have been somewhat disturbed about the assumed additional risk and are disposed to either put an extra upon general policies, or make a deduction in case the injury occurs while wheeling; but the stock companies have taken no united action, and the Fidelity Company has not found it necessary to take any action, saving that racing, on track or on road, is not covered. As yet the hazard, while real, has not assumed such relative proportions as to make any action seem needful.

Etiology of Cancer.—The articles presented and the discussions at the recent Italian Surgical Congress agree that up to the present our knowledge of the cause of cancer is limited to the fact that certain bodies are found in malignant neoplasms and nowhere else, which produce general inflammation when inoculated into rabbits, guinea pigs and mice, and neoplastic formations in the larger animals. They resemble the blastomycetes morphologically, and show the cellulose reaction like them when inoculated into animal tissues, which demonstrates that they are not evolved from the degeneration of the tissues. They are always found also accumulated around the edges of the neoplasm, where the vital growth is most prolific and never in the degenerated elements of the center. They stain by certain methods and taken either from man or animals are readily cultivated. The blastomycetes produce in man and animals septicemia, suppurations and chronic inflammatory neoplasms of the granuloma type, but so far, neither cancer nor sarcoma has been produced by them experimentally, and until we are able to produce the same neoplasm experimentally in animals, we are not justified in assuming that these bodies are the actual cause of the neoplasm, and this has not been accomplished to date. Roncali stated that the blastomycetes can not be regarded, however, as casual accompaniments of neoplasms, as they are always found in the younger peripheral parts, associated with karyokinetic formations and that their distribution in the cells and connective tissue tends to prove their genetic connection with the neoplasm. He also asserted that certain

kind of ferments have produced experimentally in dogs chronic tumors with the same characteristics as in man. He is inclined to deny the existence of a nucleus in the ferment cell, but others stated that this has only a botanical significance, and may vary with different kinds of ferments. It was generally conceded, however, that the almost invariable presence of these bodies in malignant neoplasms, their frequency in the latest growing parts and their excessive numbers in neoplasms of especially rapid evolution are facts of great etiologic significance.—*Cbl. f. Chir.*, December 12.

Construction of an Exemption Law.—The fifth section of the New Jersey law of 1894, found on page 354 of Laws of 1894, exempts "all colleges, academies seminaries of learning, . . . buildings used as asylums or schools for the care, cure, nurture, maintenance and education of feeble-minded or idiotic persons and children, provided such institutions are duly incorporated under the laws of this State, and the land whereon the same are situate, necessary to the fair use and employment thereof, not exceeding five acres for each one, the furniture thereof and the personal property used therein," etc. Under this law, the supreme court of New Jersey holds, in the case prosecuted by the Home for the Education and Care of Feeble-minded Children against the Collector of the Township of Landis, Nov. 5, 1896, that the foregoing institution is entitled to exemption from taxation for every building used for the purposes of its creation, and also for so much of the land upon which each building is erected as is necessary to its fair use and enjoyment, not in any case exceeding five acres to the building. The assessor had considered that all that he ought to exempt under the law was five acres and the buildings thereon, though it did not appear that five acres could be so set off as to contain all the buildings on the 120-acre tract owned by the institution.

Cincinnati.

THE STATE BOARD OF MEDICAL REGISTRATION has secured an important decision relating to their discretionary powers and their right to compel a physician to register after having practiced ten years or more. The supreme court decided that the board had the right to pass on the issuing of certificates to this class of practitioners, and the courts could only interfere when this discretionary power, was being abused. This decision firmly upholds the constitutionality of the law, and active prosecutions against those who have not been duly qualified will be at once instituted.

THE ANNUAL REPORT of the Health Department shows the death rate to be 16.90 per 1,000, which is a decrease of 1.39 over the previous year.

THE MORTALITY REPORT for first week in January: Zymotic diseases 15, phthisis pulmonalis 17, other constitutional 9, local 61, developmental 11, violence 4, total 117; corresponding week in 1895, 117; 1894, 125; 1893, 134. Under 5 years 33.

THE FORTIETH ANNUAL REPORT of the Ohio Institution for Feeble-minded Youth shows that the balance on hand at the opening of the past fiscal year, together with the appropriation amounted to $187,214.82, amount disbursed $124,623.05, leaving a total balance Nov. 15, 1896, of $62,591.77. The number of pupils during the year was 1,031. Twenty boys and nineteen girls have been discharged. Dr. Doren emphasizes the necessity of the establishment of a custodial department for the weak-minded, and calls attention to the fact that many of them marry and raise children, who inherit their parents' weakness. He says that a custodial department would not only prevent this, but would render its inmates self-supporting.

THE ANNUAL REPORT of the Toledo Insane Asylum shows that there were under treatment during the year 1,635 persons, of whom 87 were discharged cured, 92 as improved, 30 as unimproved and 5 discharged as not insane, a remarkable reflection on the authorities who committed them; remaining at the end of the year 1,308. Total per capita cost of inmates, $127.35.

Washington.

WEEKLY REPORT OF THE HEALTH DEPARTMENT.—The report of the Health Officer shows that the city's death rate during the last week ending Jan. 2, was 18.2 per 1,000 inhabitants. The average rate for the last month was 17.5. This is 6 per 1,000 below the annual average of the city, which is 23.5. The deaths reported to the Health Department numbered 98, of which 70 were white and 28 colored. Of the total mortality acute lung cases numbered 17 and 11 cases of consumption, compose 28.5 per cent. There were 3 deaths from diphtheria, and the new cases reported fell from 25 in the previous week to 20; houses released from quarantine 18, against 32 the week previous, and premises still isolated were reduced from 56 to 48. New cases of scarlet fever reported numbered 5; cards removed, 6; premises remaining placarded, 15. Of heart maladies there were 9 deaths, an increase of 2 over last week, and those from affections of the kidneys rose from 2 to 8.

THE X RAY IN THE PENSION OFFICE.—In a doubtful pension case an X-ray photograph was accepted as evidence by the department, showing an injury to the bones of the forearm which previously was not accurately determined.

CHEMICO-PATHOLOGICAL SOCIETY.—The annual meeting of this society, recently held, resulted in the election of Dr. A. A. Snyder, president; Drs. E. L. Tompkins and D. O. Leach, vice-presidents; Dr. R. T. Holden, secretary; Dr. T. Clarke, treasurer, and Dr. N. M. Ellison, corresponding secretary.

WASHINGTON JOURNAL CLUB.—The annual meeting of the Washington Journal Club resulted in the election of Dr. H. A. Robbins, president; Dr. F. P. Morgan, treasurer, and Dr. D. W. Prentiss as an honorary member. Dr. Prentiss was president ten years ago.

MEDICAL SUPERVISORS.—The board of medical supervisors held a meeting at the health office and decided to meet on the second Thursday in January for the examination of applicants who desire to practice surgery in the District of Columbia. The members of the board are: Drs. J. B. C. Custis, C. H. A. Klineschmidt and Thomas Robinson, and J. J. Darlington and John Ridout. Where the examinations will be held has not been determined. Under the law the examinations must be both written and oral.

HEALTH OFFICE RECORDS.—Upon the reassembling of Congress the Commissioners will report to that body a bill requiring all persons getting a transcript of the records of the health office to pay a fee of 50 cents. It is thought that a revenue of $1,000 per annum will be realized through this tax.

MEDICAL APPOINTMENTS.—The Commissioners have appointed Drs. Jesse Shoup and A. W. Boswell as physicians to the poor, the appointments of each to date back to June 1 last. The resignation of Dr. George W. Wood as physician to the poor was accepted and Dr. Francis P. Morgan was appointed to succeed him.

THE GEORGETOWN COLLEGE ALUMNI SOCIETY, which has been organized since 1872, gave its first reception to the faculty of the college on the 29th ult. About two hundred members of the society gathered in the parlors of the college, with the members of the law, medical and academic faculties. Music was provided and a lunch served until 10 o'clock.

REVIEW OF THE HEALTH REPORTS FOR THE YEAR 1896.—The The health of the city during the calendar year 1896 has been favorable, as compared with the several preceding years. There were 5,834 deaths, estimating the last days of December. This represents an annual death rate of 20.7 for the total population, while the average rate for the District of Columbia is 23.5. The first portion of the year embracing the last winter and early spring months passed with no marked outbreak of disease. Typhoid fever, which had expanded into dimensions approaching epidemic in the preceding fall months, suddenly declined to almost zero. During this time there were but few fatal cases, and this condition continued

until the last autumn months. There was then a return of this malady, which caused about eighty deaths, again declining as before. The grip again paid its yearly visit, this time appearing in the spring months of April and May, coming suddenly and as suddenly departing, causing 53 fatal cases. The diseases of children under 5 years of age, embracing the summer maladies of cholera infantum, diarrhea and enterocolitis and kindred affections, were less in virulence than for a number of years. The deaths in this class were but 291, while in the previous year they numbered 468. During the last fiscal year 2,094 children under 5 years of age died out of a total mortality of all ages of 5,904. Of these, 1,524 were under 1 year old, mostly under six months of age. The figures show that about one third of all who died in the District of Columbia are young children under 5 years of age, and one-fourth are infants under a year old. Many of these die of marasmus and inanition and congenital debility. During the same time there were 705 deaths from consumption, of which 335 were white persons and 370 colored. The death rate for the whites from this malady was 1.79 and of the colored 4.21, and for the whole population 2.6, counting the inhabitants of the District of Columbia at 187,600 whites, 87,900 colored and 275,500 in all. These statistics show that about 12 per cent. of all who die are carried away by this dread disease. Diphtheria prevailed to some extent during the year, but in a comparatively mild form. According to the last reports there were 326 cases thereof, of whom 76 died. This shows a mortality of a fraction over 23 per cent. The average rate of mortality, heretofore, both in this city and elsewhere throughout the country, has been about 33 per cent. of all cases. There were 198 deaths from violence during the year, of which 40 were from suicide. Five of the suicides occurred in November. The principal methods by which people take their own lives are pistol shot, narcotic poison and corrosive poisons. One occurred by jumping from a third-story window. All were white with one or two exceptions. During the year the health department gave much attention to relief of the poor people who were sick. Nearly sixteen thousand patients were treated and 2,500 office consultations given, with an expenditure of nearly $3,000 for medicine furnished free to this class. Over five thousand children were reported as having been born and 2,300 marriages were officially reported. The year closed with a very low death rate, thus indicating a favorable state of health at the beginning of the new year. Cases of diphtheria and typhoid fever were tending to the minimum. No new diseases indicate a tendency to spread, and an almost total absence of other contagious diseases or malarial troubles give cause for congratulation. Coroner Hammett has investigated more than six hundred deaths during the year. This number includes suicides, homicides and all accidental deaths and every death which occurred from violence and all sudden deaths where no physician was in attendance. There was one legal hanging in addition to several suicides in which hanging was the means employed to cause death. Then there were suicides committed by taking poison as well as by the use of the pistol. In all there were 39 cases of self-destruction, while the number of homicides was fourteen, an average of more than one a month. Sixty-eight of 95 stillbirths reported represented the the daily finds of dead infants on ash piles, in sewers or on doorsteps. The other 27 cases were known. There were 81 accidental deaths, and in this number were included victims of railroad accidents. Other causes of death given were: Measles, 1; Bright's disease, 3; congestion of lungs, 7; cholera morbus, 1; sunstroke, 7; heart disease, 63; alcoholism, 14; consumption, 10; pneumonia, 28; senility, 13; drowning, 17; poisoned, accidental, 3; epilepsy, 1; meningitis, 4; and congestion of brain, 4.

CLASSIFICATION OF TUMORS.

COMPREHENDING MALIGNANT AND NON-MALIGNANT NEW GROWTHS, AND CYSTS.

We republish from the last Revised Nomenclature of the Royal College of Physicians (1896), their Classification of Tumors, as it differs materially from that of the previous revision in common use among English speaking physicians. Our own ASSOCIATION long ago adopted the Nomenclature, which, we suppose, carries with it the adoption of the subsequent revisions, unless otherwise ordered by the ASSOCIATION.

In deference to the needs of the various Registration authorities, a distinction has been made in the general and local tables between malignant and non-malignant new growths. The tumors are, however, here classified according to their structure and the type of normal tissue they most closely resemble. To facilitate returns under the general tables, the malignant growths are here marked by two asterisks. In certain cases malignant and non-malignant growths are unavoidably associated under one head, as for instance, under Sarcoma; the name is then marked with one asterisk.

Cysts are placed in a separate class, and may be returned severally among the local affections of organs; or among new growths (if connected therewith); or as malformations (if congenital); or as parasites (if parasitic).

CLASSES.

I. Tumors composed of one of the modifications of fully developed connective tissue.
II. Tumors resembling in structure, more or less closely, one of the more complex tissues or organs of the body.
III. Tumors composed of cells of an embryonic type sometimes tending to develop into one of the forms of connective tissue—Sarcoma.
IV. Tumors composed of epithelial cells arranged in the spaces of a stroma of more or less perfectly developed and vascular connective tissue—Carcinoma.
V. Cysts.

Class I.—Tumors composed of one of the modifications of fully developed connective tissue.

(The name of the typical normal tissue is printed first in each case, that of the tumor second.)

1. ADIPOSE TISSUE. Lipoma. Fatty Tumor.
   - *a.* Circumscribed.
   - *b.* Diffuse. *Synonym*, Fatty out-growth.
   - *c.* Multiple.
   - *d.* Nævo-lipoma.
   - *e.* Fibro-lipoma.
2. FIBROUS TISSUE. Fibroma.
   - *a.* Firm or hard fibroma, Desmoid tumor.
     Fibrous epulis.
     Fibrous polypus of nose.
     Fibroma of nerves. *Synonym*, False neuroma.
     Keloid.
   - *b.* Soft or areolar fibroma.
     Molluscum fibrosum.
3. CARTILAGE. Chondroma.
   - *a.* Ossifying. *Synonym*, Spongy or cancellous exostosis.
   - *b.* Non-ossifying.
     *Enchondroma (when growing in bone).
     Ecchondrosis (when growing from cartilage).
   - *c.* Myxo-chondroma (when undergoing mucous softening).
4. BONE. Osteoma.
   - *a.* Developing from cartilage.
     Cancellous, or spongy exostosis.
   - *b.* Developing from membrane.
     Compact or ivory exostosis.
   - *c.* Of teeth.
     (1.) Growing from the cement.
     Dental exostosis.
     Hypertrophy of cement.
     (2.) Growing from the dentine.
     Odontoma.
5. MUCOUS TISSUE. *Myxoma.
   Mucous polypus.
6. NEUROGLIA. *Glioma.

Class II.—Tumors resembling in structure, more or less closely, one of the more complex tissues or organs of the body.

(The name of the typical tissue or organ is placed first, that of the tumor second.)

1. MUSCLE. Myoma.
   - *a.* Unstriped. Leiomyoma.
     Fibromyoma. Uterine fibroid. Fibroid tumor of prostate.
   - *b.* Striped. Rhabdomyoma.
     *Myosarcoma.
2. NERVES. Neuroma or True neuroma.
   - *a.* Medullated.
     Plexiform neuroma (in part). Bulbous nerves. *Synonym*, Amputation-neuroma.
   - *b.* Non medullated.
3. BLOOD VESSELS. Hæmangioma, Angioma, or Nævus.
   - *a.* Capillary. *Synonyms*, Port-wine stain, Mother's mark, Teleangiectasis.
   - *b.* Venous. *Synonym*, Erectile tumor, Cavernous nævus.
   - *c.* With adipose tissue. Nævo-lipoma.

4. LYMPHATIC VESSELS. Lymphangioma, Lymphatic nævus. Congenital cystic hygroma of neck. Macroglossia.
5. LYMPHATIC GLANDS. Lymphadenoma. Hodgkin's disease.
6. PAPILLÆ OF SKIN OR MUCOUS MEMBRANE. Papilloma.
   a. Squamous papilloma, Wart.
   b. Columnar papilloma, Villous growth: Of rectum. Of bladder.
7. SECRETING GLANDS. Adenoma.
   a. Racemose adenoma (spaces lined with glandular or spheroidal epithelium).
      (1.) Resembling normal gland tissue. True adenoma.
      (2.) With excess of firm fibrous stroma Adenofibroma, Adenoid tumor.
      (3.) With stroma of imperfectly developed fibrous tissue. Adeno-sarcoma.
      (4.) With stroma containing mucous tissue, Adenomyxoma.
      (5.) With large cysts throughout the tumor. Adenocysto sarcoma, Cysto-sarcoma. With simple cysts. With intra-cystic growths.
   b. Tubular adenoma (spaces in tumor lined with columnar or cubical epithelium).
   c. Adenoma of ductless glands, Thyroid adenoma.
   d. Ovarian Adenoma.

Class III.—Tumors composed of cells of an embryonic type sometimes tending to develop into one of the forms of connective tissue.

*SARCOMA:

1. Composed of small round cells.
   a. With homogeneous intercellular substance. Granulation sarcoma. Encephaloid sarcoma.
   b. With reticulate stroma. Lympho sarcoma.
   c. Ossifying sarcoma, Osteoid sarcoma (Osteoid cancer).
   d. Chondro-sarcoma (Malignant chondroma).
   e. Glio-sarcoma.
2. Composed of large round cells. With alveolar stroma. Alveolar sarcoma.
3. Composed of oval cells. With mucous intercellular substance. Myxosarcoma.
4. Composed of large spindle-cells (Fibro-plastic tumor).
   a. Ossifying.
   b. Chondrifying.
5. Composed of small spindle-cells.
   a. Developing into fibrous tissue. Recurrent fibroid tumor.
   b. Ossifying.
6. Composed of round and spindle-cells.
7. Containing giant cells. Myeloid sarcoma.
8. Melanotic sarcoma, Pigmented sarcoma.
9. Plexiform sarcoma, Cylindroma.
10. Psammoma, Brain-sand tumor.

Class IV.—Tumors composed of epithelial cells arranged in the spaces of a stroma of more or less perfectly developed and vascular connective tissue.

**CARCINOMA OR TRUE CANCER.

1. Glandular or Spheroidal Carcinoma.
   a. With little stroma and abundant vessels. Encephaloid cancer.
   b. With dense fibrous stroma. Scirrhus or hard cancer. Variety: Atrophic cicatricial scirrhus.
   c. With colloid degeneration of cells. Colloid cancer (Reticular or alveolar cancer) in part.
   d. With myxomatous stroma. Carcinoma myxomatodes.
2. Squamous Carcinoma. *Synonyms*, Epithelioma, Squamous epithelioma.
   Note.—Chimney-sweeper's cancer is to be returned under Squamous Carcinoma.
3. Rodent cancer or Rodent ulcer.
4. Columnar Carcinoma. *Synonyms*, Columnar epithelioma, Adenoid cancer.
   a. With colloid degeneration of cells. Colloid cancer in part.
   b. Arising in ducts. Duct cancer.
5. Thyroid Carcinoma. Resembling in structure the Thyroid gland.

Class V.—Cysts.

1. CYSTS ARISING FROM THE DISTENSION OF PRE-EXISTING SPACES.
   a. Spaces lined with secreting epithelium, Retention cysts.
      (1.) Acinous or glandular cyst of breast, pancreas, and other glands.
      (2.) Duct cyst of the breast, pancreas, testicle and other glands.
      (3.) Galactocele.
      (4.) Spermatocele.
      (5.) Mucous cyst. Ranula. Labial cyst.
      (6.) Sebaceous or atheromatous cyst, Wen.
      (7.) Ovarian cyst from Graafian follicles.
   b. Spaces lined with flattened endothelium. Distension or exudation cysts, Lymphatic cysts.
      a. Bursal cysts.
      b. Ganglion.
      c. Serous cysts.
2. CYSTS IN WHICH THE FLUID IS CONTAINED IN A SPACE OF NEW FORMATION.
   a. Blood cyst. Apoplectic cyst in brain.
   b. Degeneration cyst. In brain. In tumors.
3. CYSTS OF CONGENITAL ORIGIN.
   a. Inclusion-cyst. Dermoid cyst.
   b. Cysts arising in the remains of fœtal structures.
      a. Unobliterated branchial clefts. Deep cysts of neck.
      b. Unobliterated canal of His. Sub-lingual cysts in part. Sub-hyoid cyst in part. Cysts in front of larynx.
      c. Remains of Wolffian body. Encysted hydrocele in male (in part). Cysts of the broad ligament in female (in part).
      d. Partially unobliterated processus vaginalis testis, Encysted hydrocele of cord.
      e. Partially unobliterated canal of Nuck. Hydrocele of canal of Nuck.
      f. Cysts of post-anal gut.
4. PARASITIC CYSTS.

Change of Address.

Berry, H. A., from Oswego to Herrin, Ill.
Blanchard, A. C., from Mineral Point to Linden, Wis.
Gould, J. B., from Minneapolis to Anoka, Minn.
Gores, F. C., from Hewitt and Hackberry Sts. to 938 E. McMillan St., Cincinnati, Ohio.
Maxey, S. B., from Sherman to Velasco, Texas.
Orth, D. A., from Chicago to 255 Wisconsin St., Milwaukee, Wis.
Turner, B. S., from 3906 State St. to 3859 State St., Chicago.
Tipton, John S., from care of Crozer Iron Co. to 214 Third ave. N.E., Roanoke, Va.
Toron, M., from North and Ashland Aves. to 812 Milwaukee Ave., Chicago.
Wyman, Hugh S., from Olympia, Wash., to Juneau, Alaska.
Wirdemann, H. V., from 805 Grand Ave. to Pierce Bldg., Suites 40 and 41, Milwaukee, Wis.

LETTERS RECEIVED.

Allan, W. C., Chicago; Angell, Katharine, Chicago.
Bigelow, J. S., Dubuque, Iowa; Barry, P. J., Auburn, Iowa; Bowers, W. C., La Place, Ill.; Brown, E. J., Minneapolis, Minn.; Beuerman, L. C., Philadelphia, Pa.; Bonifas, S. J., Chicago.
Crenshaw, J. W., Cadiz, Ky.; Clarke, Augustus P., Cambridge, Mass.; Curtis, W. K., Midland, Texas.
Duffield, H. T., Pittsfield, Ill.; Davis, C. G., Chicago; Dewar, T. A. (2), Detroit, Mich.; Dewey, C. R., Mattawan, Mich.
Elliott, E. N. (2), Chicago; Edenharter, Geo. F., Indianapolis, Ind.; Eskridge, J. H., Chicago; Edmonson, G. S., Moroa, Ill.; Eagan, J. A., Chicago.
Fanning, Geo. J., Lame Deer, Mont.; Ferguson, Clara, Dunning, Ill.; Fassett, C. W., St. Louis, Mo.; Fletcher, M. H., Cincinnati, Ohio.
Griffin, N. A., Chicago; Grinker, Julius, Chicago.
Huizinga, T. G., Zeeland, Mich.; Harrison, C. F., Perry, Ill.; Hollister, Thos. C., Louisville, Neb.; Howle, W. P., Oran, Mo.; Hardy, N., Massillon, Ohio; Hilborn, Allen, Benton Harbor, Mich.; Harriman, W. E., Ames, Iowa; Hummel, A. L. (2), Advertising Agency, New York, N. Y.
Imperial Granum Co., The, New Haven, Conn.
Judkins, Wm., Cincinnati, Ohio; Johnson, H. L. E., Washington, D. C.
Lucas, W., New Holstein, Wis.; Lewis, E. St. Elmo, Philadelphia, Pa.; Lake, A. D., Gowanda, N. Y.; Leiter, Frances W. (Mrs.), Mansfield, Ohio; Laughlin, E. J., Andover, N. Y.; Laughlin, E. D., Orleans, La.; Long, F. A., Madison, Neb.
Merkel, Dr., Saginaw, Mich.; Merrick, M. B., Passaic, N. J.; McCassy, J. H., Dayton, Ohio; Moore, W. H., Brockport, N. Y.; Menefee, E. L. (2), Graniunan, Texas; Monash, D. F., Des Moines, Iowa; MacMillan Company, The, New York, N. Y.
Open Court Publishing Co., Chicago.
Poling, J. A., Freeport, Ill.; Proctor & Collier Co., Cincinnati, Ohio; Prencel, J. F., Chicago; Pratt, Lester C., Bellefontaine, Ohio; Publishers' Collective Agency, St. Paul, Minn.
Quesada, Gonzalo de, Washington, D. C.; Quinlan, W. W., Chicago.
Reed, R. Harvey, Columbus, Ohio; Register & Montgomery, Charlotte, N. C.; Ransom, J. B., Dannemora, N. Y.; Riley, W. H., Boulder, Colo.; Rose, D., Chicago; Richards, A. S., Chicago; Rogers, C. C., Chicago.
Steiger, E. & Co., New York, N. Y.; Stearns, F. & Co., Detroit, Mich.; Schering & Glatz, New York, N. Y.; Spencer, E. R., Doylestown, Ohio; Sullivan, G. M., Labelle, Mo.; Sharp & Smith, Chicago; Schwab, L. W., Chicago.
Tobey Furniture Co., Chicago; Treat, E. B., New York, N. Y.
Visser, J., Chicago.
Wyman, Hal C., Detroit, Mich.; Woodbury, Frank, Philadelphia, Pa.; Wilbur, Cressy L., Lansing, Mich.; Wingate, U. O. B., Milwaukee, Wis.; Wood, H. D., Angola, Ind.; Williams, W. W., Quincy, Ill.
Zook, E. W., Dunlap, Ill.